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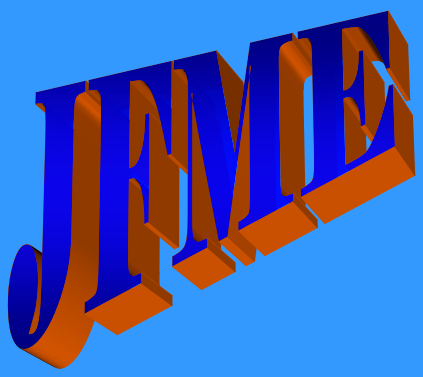

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Research published scientific research aimed both economic development and clarification of the current economic phenomena and processes. As a result, conclusions and proposals offered by the authors address both academia - scientists, teachers, students - as well as decision makers. We emphasize the importance of scientific contributions, together with the clarity of concepts, methodologies and conclusions offered.

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SECTION I. FISCAL ISSUES IN THE GLOBALIZED ECONOMY & FINANCIAL MICROECONOMICS

LINKS BETWEEN TAX REGIMES AND POLITICAL REGIMES IN EUROPEAN UNION COUNTRIES IN THE PERIOD 2000-2019

Alina Georgeta Ailincă, PhD., 3rd degree Scientific Researcher[1]

Abstract:

Focusing on the countries of the European Union, the article aims to track the behavior of fiscal variables (e.g. revenues, expenditures, budget deficit, public debt) and the variation of tax regimes in terms of personal income (flat rate vs. progressive rate) depending on the form of government of each country and more precisely of the political position of the governments in power in the EU28 countries for the period 2000-2019. The results can be useful for a better understanding of the links between political and fiscal governance in the European Union countries and can provide answers for the most appropriate fiscal-budgetary conduct of the general government.

Keywords: *taxation, politics, connections, European Union countries*

JEL classification: *C58, D72, E62, H21*

Introduction

Although seemingly torn from the real world, like in an ivory tower, politics is not considered to influence people's daily lives. However, politics plays an important role at least in institutional decisions, including in the way public budgets are financed. Debates about what is more appropriate single or progressive quota, with analysis of tests and evaluations abound in the literature, but the link with the form of government or the political position of world governments is more difficult to follow by studies. Therefore, the article tries to shed some light on what the form of government means as an impact on taxation.

The objective of the study is to conduct an assessment on possible links between tax regimes regarding personal income tax (including some fiscal variables) and political position and form of government in European Union countries for the period 2000-2019. The particular objectives are: - to identify the characteristics of governmental institutional form from every country in the EU28, - to identify the political position of governmental institution from every country in the EU28 for the period 2000-2019, - to identify possible correlations between fiscal variables (Total general government revenue (%GDP), Total general government expenditure (%GDP), Net lending (+) /net borrowing (-)(%GDP), Government consolidated gross debt (%GDP)) and tax type, government position and government form for distinctive groups of countries of EU28 and for EU28 as a whole, - to construct a regression equation linking the Tax type from government position and government form. The research hypotheses are formulated according to the objectives, and they are accepted or rejected based on p-values (Kothir, 2004), R2 and adjusted R2 for regression equation (Schroeder et al., 1996; Kennedy, 2008), although these methods, like any other, have limitations (King, 1986, for interpreting R2 etc.).

The main contribution of the study could be considered the increasing knowledge regarding the links between political position of EU28 governments between the years 2000-2019 and the fiscal type systems, adding to the classical beneficiary such as researchers, also the tax institutions and political and policy makers. The results could be the base for conducting studies with other, more suited explanatory variables, for different periods (for example, in the future, including data from COVID19 burst) and different countries.

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Description of the Problem and literature review

Since 50 years ago, some empirical studies explain how re-election motives, orientation of governments, policies, the timing of elections and political business cycles influence the macroeconomic results in industrial democracies (Alesina et al., 1997 etc.). In the paper of Ebeke and Ölçer (2013), focusing on LIC (Low Income Countries) it was investigated the behavior of fiscal variables after and during the elections. In the election years the deficits were higher on the grounds of the increase of government consumption, after the elections the government investment decreased, but no cuts in government consumption and it increased the revenues from trade taxes. The conclusion of these authors was that elections trigger a painful fiscal adjustment, besides an important macroeconomic cost. Other studies have shown that the economic cycles are driven by politics in developing countries especially on current expenditures of government, budget deficits, monetary aggregates and indirect tax revenues (Shi and Svensson, 2006; Vergne, 2009; Block, 2002, Ehrhart, 2012). In Baer & Coes (2006) paper it is investigated for Brazil the proposition that a government which faces an election will find it difficult to resist increasing expenditures or to raise taxes, thus resulting fiscal deficits. The fiscal deficits are then either financed by the central bank or by domestic and/or foreign borrowing, increasing the government's foreign or domestic debt, on grounds of the fact that the government had the confidence of the international financial community. The paper of Baer & Coes (2006) considers that much of the variation in Brazilian macroeconomic policy over the past half-century reflects the changing political pressures on the government, the result being confirmed by a formal test.

Thus, we can conclude that the literature brings many arguments in favor of a political influence on taxation. However, for the EU28 and especially for the countries that has experienced the single quota, such an analysis: fiscal-political has not yet been carried out, in the form of present paper.

Methodology and Data

The methodology is mainly empirical, using correlation and Ordinary Least Square (OLS) regression model, with theoretical and descriptive insertions. It has been used correlations in order to explain a bivariate relationship between the selected variables. Given that the spheres of which the dependent and independent variables are part are extremely different, we will consider that the correlations below 0.40 are relatively modest and that above this value the correlations can be considered as medium to high values. The methodology of the research describes also the source of data. For example, it has been used governmental sites, political party internet files, media sites, reports etc. and also Eurostat, for macroeconomic variables, international economical and political studies. The sample size uses a panel dataset covering EU28 countries over the period 2000-2019, the regression equation model having 560 observations. The instrument used was Excel data analysis. For future more sophisticated studies it could be considered the use of EViews10 software. The government position if it is centre left was considered as left, and centre right as right, and where it was inconclusive for the politics position or it is an independent government was considered of centre. Thus, Gov. position represents govern position, more precise left – L or -1 or right –R or 1 or central C or 0. The tax type is progressivity noted 1 and flat tax as 0. The form of government or FG is considered: Federal parliamentary (2), Unitary presidential (1), Unitary semi-presidential (0), and Unitary parliamentary (-1). The TGGR(%GDP) represents Total general government revenue (%GDP); TGGE(%GDP) represents Total general government expenditure (%GDP), the NL/NB(%GDP) is Net lending (+) /net borrowing (-)(%GDP), and GCGD(%GDP) is the notation for Government consolidated gross debt (%GDP).

Results

The adequacy of tax regimes to economic realities and the need to find the best solution for tax regimes to encourage investment, business development, production, consumption, employment and growth has been one of the dominant concerns of economists. Single-quota regimes have been implemented mainly in the Baltic countries (Estonia, Latvia, and Lithuania in 1994-1995-1996) and Russia (2001) (Greenberg, 2009), but have gradually expanded to Central and Eastern

Europe, hoping to bring economic prosperity with them. This system, which is somewhat close to fiscal dumping (especially the tax regimes with extremely low single quotas), did not bring the expected results in all the countries that implemented it, but at least it managed to simplify the relationship with the tax administrations in those countries. Some of these countries have given up single-quota or flat tax regimes because their economic and social role has been considered exhausted (see Table 1).

Table 1

Implementation or cessation period of the single quota or flat tax regarding personal income tax in some EU countries in the period 2000-2019

Countries with flat tax	Beginning	Giving up
Latvia	**1995**	**2018**
Lithuania	**1996**	**2019**
Slovakia	**2004**	**2013**
Czech Republic	**2008**	**2013**
Romania	**2005**	**No**
Estonia	**1994**	**No**
Bulgaria	**2008**	**No**
Hungary	**2011**	**No**

Source: conform Greenberg (2009) and Lazea (2020)

Turning to the political aspect, if we take into account all EU countries for the period 2000-2019 we notice that the parties with the orientation of the right (inclusive center right) political position represent a dominance of government at EU level except for a few countries such as: Czech Republic, Greece, Lithuania, Austria, Portugal, Romania, Slovenia, Slovakia, Sweden.

Table 2

Evidence of the number of times of the government's position on countries - right or left - in EU countries in the period 2000-2019, on countries

European Union Country	Right government (how often)	Left government (how often)	Centre or independent government (how often)
Belgium	17	3	0
Bulgaria	15	5	0
Czechia	7	13	0
Denmark	14	6	0
Germany	14	6	0
Estonia	17	0	3
Ireland	20	0	0
Greece	6	14	0
Spain	10	10	0
France	13	7	0
Croatia	12	8	0
Italy	9	8	3
Cyprus	10	5	5
Latvia	20	0	0
Lithuania	9	11	0
Luxembourg	20	0	0
Hungary	12	5	3
Malta	13	7	0
Netherlands	17	3	0
Austria	9	11	0
Poland	16	4	0
Portugal	7	13	0
Romania	8	11	1
Slovenia	6	10	4
Slovakia	5	15	0
Finland	3	4	13
Sweden	8	12	0
United Kingdom	10	10	0

Source: official sites of European Union governments, online and press data. For colors code – for position of right of the governments including up to 5 times – red, between 5 and 10 times – orange; over 10 to 15 including - yellow, blue over 15 times. For left governments up to 5 times including – blue, over 5 to 10

yellow, over 10 to 15 times orange, over 15 times red; central or independent governments, or even indefinite dominant position with green

Table 3

Evidence of the number of times of the government's position - right or left – at the level of the whole EU in the period 2000-2019, on every year

Year	Right government (how often)	Left government (how often)	Centre or independent government (how often)
2000	15	13	0
2001	14	13	1
2002	14	12	2
2003	15	9	4
2004	16	8	4
2005	17	9	2
2006	17	9	2
2007	17	9	2
2008	18	9	1
2009	17	10	1
2010	20	7	1
2011	21	6	1
2012	18	9	1
2013	14	14	0
2014	15	13	0
2015	14	13	1
2016	15	11	2
2017	16	10	2
2018	17	8	3
2019	17	9	2

Source: official sites of European Union governments, online and press data, same data as above but on every year. For colors code – for position of right of the governments including up to 5 times – red, between 5 and 10 times – orange; over 10 to 15 including - yellow, blue over 15 times. For left governments up to 5 times including – blue, over 5 to 10 yellow, over 10 to 15 times orange, over 15 times red; central or independent governments, or even indefinite dominant position with green

Thus, we notice that the right-wing governments represent at the level of each year of the analysis period an absolute dominance in relation to the left-wing ones, except the year 2013 where they (right-left) stood at parity. This could indicate that, although the global crisis of 2008-2009 could not change the right choice of EU citizens, it is probably perceived as a crisis that started outside the EU (United States), the sovereign debt crisis, with strong development in the EU, did said its word, tilting in 2013 slightly the balance to the left governments.

For Central and Eastern Countries, this is also highlighted by figure 1 in which the combination of the single quota and the right regime is highlighted as significant in countries such as: Bulgaria, Estonia, Latvia, and the combination of progressivity and left governments as dominants is observed in: Czech Republic and Slovakia. Hungary presents, considered on the entire period of analysis, a combination of progressivity with right regimes and Romania registered flat tax regimes with left number of governments, although a right-wing regime initiated the flat quota in Romania.

For Western European countries, the single quota is non-existent; therefore fiscal progressivity is associated in almost all EU countries with right-wing political regimes except countries such as

Greece, Austria, Portugal, Slovenia and Sweden where fiscal progressivity is mostly coupled with left-wing regimes.

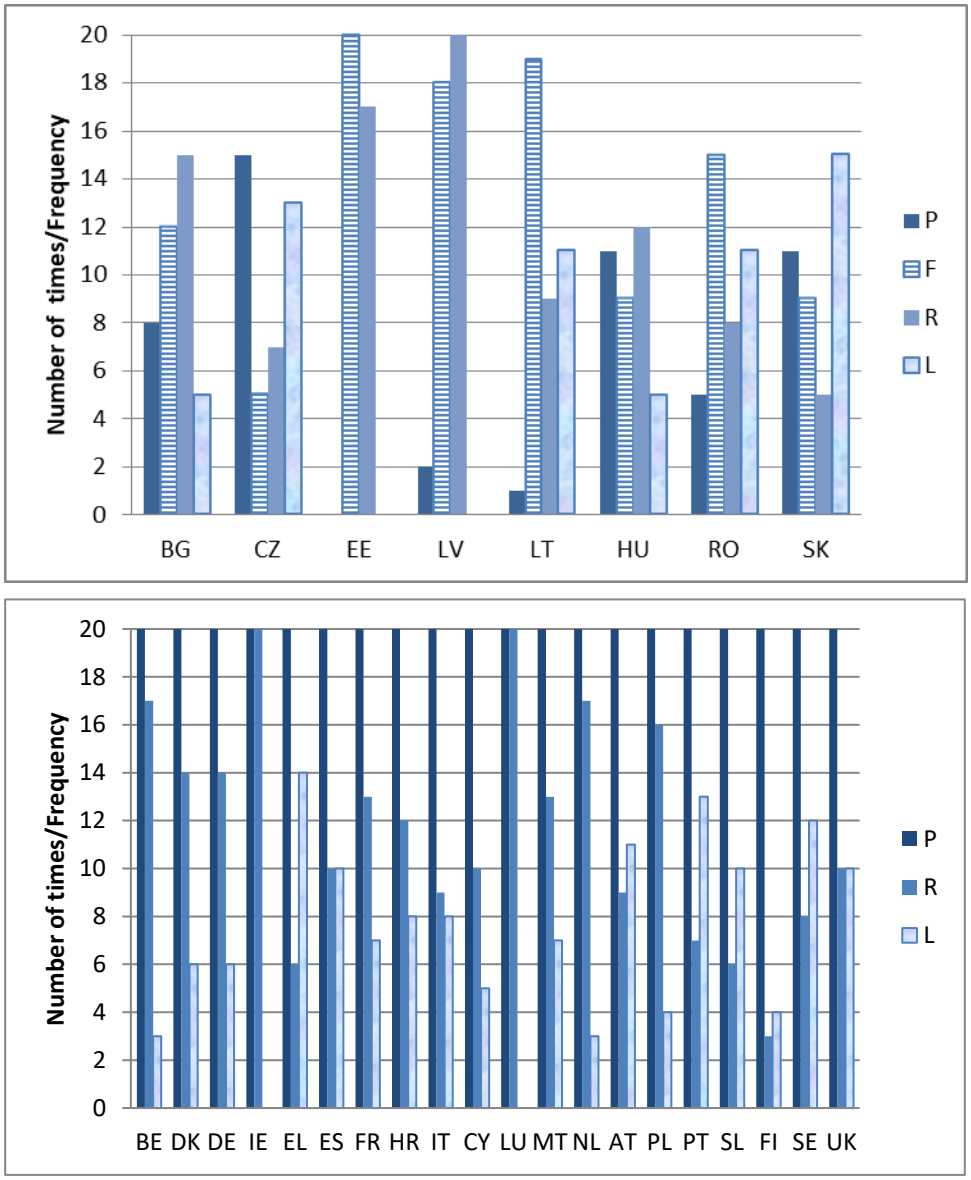

Figure 1 – Evidence of the number of times of the tax type – progressive or flat – and the government's position - right or left – and of at the level EU countries

in the period 2000-2019

Source: author's processing, Eurostat and official sites of European Union governments, online and press data. Notes: P is tax progressivity regime, F – flat tax regime, R – governments with right political position, L - governments with left political position.

If we go further, analyzing through a correlation matrix the relationship between the tax type, the government position, the government form, the total general government revenue (%GDP), the total general government expenditure (%GDP), the net lending (+) /net borrowing (-)(%GDP) and the government consolidated gross debt (%GDP), we may, therefore, notice that the tax type display relative medium positive correlations with the total general government expenditure (%GDP), with the total general government revenue (%GDP) and the government consolidated gross debt (%GDP) (see Table 4). At the same time, the correlation of tax type with government position (left or right) is negative and rather week, but well above government form. Thus, to develop the regression equation for tax type determinants, we considered first only the indicators

related to politics government position and government form although the correlations are not quite fitted.

If we take into consideration the same matrix indicators but only for EU countries which experienced (also) flat tax in the period 2000-2019 (Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Romania and Slovakia), we may notice that: - the tax type and government position has a rather medium to strong negative correlation, well above all the fiscal indicators (public revenues, expenses, deficit/surplus and debt); - the government form is very strong negatively correlated with total general government revenue (%GDP), and rather medium negatively correlated with total general government expenditure (%GDP) (see Table 5). This suggests that the form of government and political parties should reconsider their options for a better fit to the tax type.

Table 4

Correlation matrix between the Tax type, Government position, Government form, Total general government revenue (%GDP), Total general government expenditure (%GDP), Net lending (+) /net borrowing (-)(%GDP), Government consolidated gross debt (%GDP) at the level of all EU countries in the period 2000-2019

	Tax type	*Gov. position*	*GF*	*TGGR (%GDP)*	*TGGE (%GDP)*	*NL/NB (%GDP)*	*GCGD (%GDP)*
Tax type	1						
Gov.position	-0.208	1					
GF	0.126	0.028	1				
TGGR(%GDP)	0.447	-0.141	0.168	1			
TGGE(%GDP)	0.454	-0.186	0.165	0.850	1		
NL/NB(%GDP)	-0.035	0.089	-0.003	0.230	-0.316	1	
GCGD(%GDP)	0.427	-0.152	0.249	0.298	0.479	-0.347	1

Source: Author's calculation. Data source Eurostat and official sites of European Union governments, online and press data.

Table 5

Correlation matrix between the Tax type, Government position, Government form, Total general government revenue (%GDP), Total general government expenditure (%GDP), Net lending (+) /net borrowing (-)(%GDP), Government consolidated gross debt (%GDP) at the level EU countries which experienced (also) flat tax in the period 2000-2019

	Tax type	*Gov. position*	*GF*	*TGGR (%GDP)*	*TGGE (%GDP)*	*NL/NB (%GDP)*	*GCGD (%GDP)*
Tax type	1						
Gov.position	-0.496	1					
GF	-0.222	0.051	1				
TGGR(%GDP)	0.398	-0.096	-0.603	1			
TGGE(%GDP)	0.381	-0.215	-0.425	0.815	1		
NL/NB(%GDP)	-0.118	0.241	-0.084	-0.051	-0.620	1	
GCGD(%GDP)	0.349	-0.174	-0.148	0.634	0.711	-0.368	1

Source: Author's calculation. Data source Eurostat and official sites of European Union governments, online and press data.

If we consider only the EU28 countries with progressive fiscal regimes regarding personal income tax (PIT), the position of government (left, centre or right) is correlated positively but extremely week with government form and public deficit or surplus, and negatively and a little bit stronger with expenditure, income and debt of the government.

Table 6

Correlation matrix between the Government position, Government form, Total general government revenue (%GDP), Total general government expenditure (%GDP), Net lending (+) /net borrowing (-)(%GDP), Government consolidated gross debt (%GDP) at the level EU countries which experienced only progressive tax regimes in the period 2000-2019

	Gov. position	*GF*	*TGGR (%GDP)*	*TGGE (%GDP)*	*NL/NB (%GDP)*	*GCGD (%GDP)*
Gov.position	1					
GF	0.041	1				
TGGR(%GDP)	-0.143	0.150	1			
TGGE(%GDP)	-0.172	0.147	0.812	1		
NL/NB(%GDP)	0.044	0.007	0.324	-0.289	1	
GCGD(%GDP)	-0.140	0.207	0.021	0.266	-0.397	1

Source: Author's calculation. Data source Eurostat and official sites of European Union governments, online and press data.

Based on the first correlation matrix (Table 4) we construct a regression equation to be able to observe the coefficients and p-values. The regression function is formulated as: Tax type= f (Gov. position, GF) more exactly: Tax type=Λ+β*Gov.position+Γ*GF+ε……(1). Where the coefficients β, Γ are the estimated values of each variable, Λ is the constant values; ε is the error term, randomly.

Table 7

Regression equation results linking the Tax type from Government position and Government form, at the level of all EU countries in the period 2000-2019

Regression Statistics	
Multiple R	0.246
R Square	0.060
Adjusted R Square	0.057
Standard Error	0.382
Observations	560

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	5.2363828	2.6181914	17.933485	2.832E-08
Residual	557	81.318974	0.1459946		
Total	559	86.555357			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.855	0.018	46.835	0.000	0.819	0.891	0.819	0.891
Gov.position	-0.089	0.017	-5.145	0.000	-0.123	-0.055	-0.123	-0.055
GF	0.053	0.016	3.209	0.001	0.021	0.085	0.021	0.085

Source: Author's calculation. Data source Eurostat and official sites of European Union governments, online and press data.

The estimated model with adjusted R2 of 0.057 suggest that all the explanatory variables are together explain for about 5.7 percent of the variations level of factors that affect the fiscal or tax type. The values of degree of freedom df (2) with the F value of 17.933 with a significant level of p < 0.000 (2.832E-08) implies all independent variables were jointly significant in explaining the variation in factors that affect tax type. Although the p value is appropriate, we cannot say that the adjusted R2 can satisfy us, therefore, the model will have to be revised in the future with other explanatory variables. Thus the regression equation will include other independent variables such as public expenditures and public revenues as well as public debt to explain the type of taxation: progressivity or single rate. Thus, the equation becomes a function like: Tax type= f (Gov. position, TGGR (%GDP), GCGD (%GDP)).

More exactly: Tax type=Λ+β*Gov.position+Γ*TGGR(%GDP)+δ*GCGD(%GDP)+ε……(2).

Table 8

Regression equation results linking the Tax type from Government position, Total general government revenue (%GDP), Government consolidated gross debt (%GDP), at the level of all EU countries in the period 2000-2019

Regression Statistics	
Multiple R	0.553
R Square	0.306
Adjusted R Square	0.303
Standard Error	0.329
Observations	560

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	26.51314384	8.8377146	81.8385775	7.2969E-44
Residual	556	60.04221331	0.1079896		
Total	559	86.55535714			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.278	0.096	-2.910	0.004	-0.466	-0.090	-0.466	-0.090
Gov. position	-0.048	0.015	-3.147	0.002	-0.077	-0.018	-0.077	-0.018
TGGR(%GDP)	0.021	0.002	9.101	0.000	0.017	0.026	0.017	0.026
GCGD(%GDP)	0.004	0.000	8.281	0.000	0.003	0.004	0.003	0.004

Source: Author's calculation. Data source Eurostat and official sites of European Union governments, online and press data.

The estimated model with adjusted R2 of 0.303 suggest that all the explanatory variables are together explain for about 30.3 percent of the variations level of factors that affect the tax type. The significant level of p < 0.000 (7.2969E-44) implies all independent variables were jointly significant in explaining the variation in factors that affect tax type.

The regression equation estimated was explained with the help of all explanatory variable included in the regression model as follows:

Tax type = -0.278-0.048*Gov.position+0.021*TGGR(%GDP)+0.004*GCGD(%GDP)……(3).

The significance F and p values for independent variables are appropriate, but the adjusted R2 should be a little bit higher for a favorable explanation for the tax type.

Conclusions

The paper seeks to investigate whether and to what extent progressiveness or the flat tax regimes are related to the political position of the governing parties or of the form of government of the state. For the period 2000-2019, right-wing governments appear to dominate the EU28 political scene. From a fiscal point of view, we note that Central and Eastern European countries of EU28 are oriented (also) towards flat tax regimes, although lately some of these countries have returned to progressive taxation. The Western European countries of the EU28 keep a tradition of progressive taxation, many of which have a strong right-wing political dominance.

The econometric results are not as relevant as we would like, but we note that Central and Eastern European countries of EU28 have more intense correlations, even in relation to the chosen fiscal variables, although negative between the type of taxation and the political position of governments. This shows that European Union's advanced democracies have a weaker influence of the political position of governments on taxation than economies with relatively young democracies such as Central and Eastern European countries.

Future Directions

The study is rather an empirical one, the limitation of the paper is that asses a narrow area of investigation and cannot be extended to other states, other parts of the world and time tables. Therefore, other researchers have a wide range of opportunities to investigate these directions.

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THE CHANGING LABOUR MARKET: DIGITIZATION, UNEMPLOYMENT TRENDS, AND THE MINIMUM WAGE

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Abstract:

The paper addresses three named factors: digitization, unemployment and minimum wage, as a key-factors for changing in the labour market in a globalized economy in the context of the COVID -19 pandemic. In the work will discuss the possible answers to the following three questions:

-Should decision makers be concerned about the future of work?

-What are the evolutionary trends of unemployment?

-How can the minimum wage be a new instrument in a new development policy?

A few possible answers will be evaluated based on the comparative analysis of the empirical data from several European countries.

In conclusion, the paper highlights the impact of an eventual solution according to the targeted time horizon.

Keywords: *labour market, digitization, unemployment, minimum wage, public policies*

JEL classification: *J08, J21, K31*

Introduction

The challenges facing the world of work have always been many and varied; labour market governance, state intervention on labour market-specific institutions through appropriate policies and law has been a permanent necessity. Until the outbreak of the pandemic, all institutions, all studies and all policy makers stress the importance of emergency action, for managing unemployment, for being flexible, for taking advantage of opportunities and addressing challenges, for building fairly, inclusive and certainly a future of full-time work, decent work for all, freely chosen work, well-being, high productivity and work-life balance. The centrality of work for the achievement of the Sustainable Development Goals (Agenda 2030) and the Social Europe Strategy or other national programs and strategies involving the addressing of income inequalities and the eradication of poverty is recognized. All this involved consolidated labour institutions, from the minimum wages to the right to representation and the right to collective bargaining.

The future of work has been discussed for some time in terms of changes under the auspices of digitization and digitalization, AI, cybersecurity, and their influences on working time, the workplace, and income from work. Of course, there are arguments pro and cons the foreshadowed changes, new challenges that change the labour market and jobs in the future. But over this, comes in 2020, unexpectedly, with the new type of Coronavirus and the pandemic known as COVID 19, which affects the entire planet and involves major concerns, the impact being widespread and considerable on the labour market.

The importance of the disruption on the labour market has led to pay attention either of the impact at the macroeconomic level highlighting trends on the unemployment, and at microeconomic level by effects on the welfare and well-being of individuals.

The paper brings in attention of the empirical data from several European countries and offer o comparative analyses, in order to discover a few possible answers.

The questions to be answered in the study are the following three questions*:*
-Should decision makers be concerned about the future of work?

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-What are the evolutionary trends of unemployment?
-How can the minimum wage be a new instrument in a new development policy?
In conclusion, the paper highlights the impact of an eventual solution according to the targeted time horizon.

The problems of the labour market in the context of the COVID -19 pandemic

Relevant criteria for examining public labour market policy interventions relate to the effects on unemployment / employment and income:
- the economic precariousness of the individual (lack of employment, lack of job security and safety and health at work, instability of personal income, especially in wages, but we can also include the population employed in liberal activities, the prospect of poverty, lack of predictability and uncertainty about the future);
- stress as a stigma with implications for labour productivity, motivation and health (suspected of being infected with SARS_Cov2 or a positive test result, unemployment, shame of stigmatizing those without savings and opportunities for this period, limiting individual freedoms and discrimination of any kind, prejudice and exclusion, feelings of inadequacy are factors that trigger physical and mental illness, suicidal tendencies);
- digitization and forced digitization, automation and artificial intelligence (AI) accompanied by the need for new skills in a labour market that had started shyly in this direction and can now demonstrate the relationship with labour productivity.

As soon as it started, the pandemic manifested itself in the real economy as a strong blow coming from outside the economic system, but affecting its functioning because:
• the activity of HORECA (hotels, restaurants, cafes and other places of this kind) in closed or open spaces has been suspended or reduced
• cultural, scientific, artistic, religious, sports, entertainment or gambling, spa treatment and personal care activities carried out indoors have been suspended
• the physical distance of 1-2 m was imposed for people in the group
• protective materials were imposed on carriers
• the first airlines were suspended
• digital technologies and media service providers were used for continuous and near real-time communication of data on the state of the spread of the virus, new cases, serious cases and deaths.

The consequences were: disorganization of economic activity and people's lives (changes in production and consumption, place, pace, speed) reduction or even closure of economic activity in the areas explicitly mentioned in the ordinances, but also in other related (or where they worked together a number large number of people, imposed travel abroad, etc.), insecurity and pessimistic expectations about personal income, company profits, prices of strictly useful and consumer goods, wages, individual freedoms, living and working conditions. These were followed by major behavioural changes, which in turn were manifested by a series of rational or emotional decisions on the part of both individuals and firms to withdraw savings from banks, to increase consumption for the formation of food stocks for survival, investment, closure and other activities, termination of employment and termination of employment, suspension of other employment, or suspension of wages, followed by a series of declines in employment consumption of a wide range of products, imbalances between supply and demand both in commercial transactions and on the labour market. In a labour market where, labour shortages are a challenge for employers and public policies, it is suddenly necessary to find solutions to maintain employment and avoid unemployment.

The discretionary, ad-hoc intervention of the state through public policies is absolutely mandatory, otherwise there is a risk of permanently losing the quantitative, qualitative and structural identity of national economies, respectively of interrupting the chain of efforts on economic sustainability and economic convergence with the European Union.

New technologies and human capital

New technologies that changed the world appeared years ago, starting in the 1950s, with experts highlighting the development steps from the creation of the first mainframe computers, client servers and personal computers, Web1 and e-commerce, Web 2 and data storage systems (cloud), and mobile data, visualizations, Big data and Analytics, Internet of Things (IoT) and the world of smart (smart cities, smart buildings, smart homes or smart cars), and more recently, machine learning and artificial intelligence (WEF, 2016, p.6).

Timothy John Berners-Lee, the inventor of the World Wide Web, says that if it is add vector graphics, all content is dynamic, interactive, and engaging, over Web 2.0, and it provides access to the semantic web over a huge space of data, it get access to a resource incredible data, thus defining the concept of Web 3.0. , which also means user involvement and life (or live) streaming. And development do not stop here, next will be web 4.0 with machine reasoning, and the so-called "autonomous agents." An important relationship is created between the meanings of the digital world, its mode of communication and the semantics of social relations, as can be seen in the following figure1:

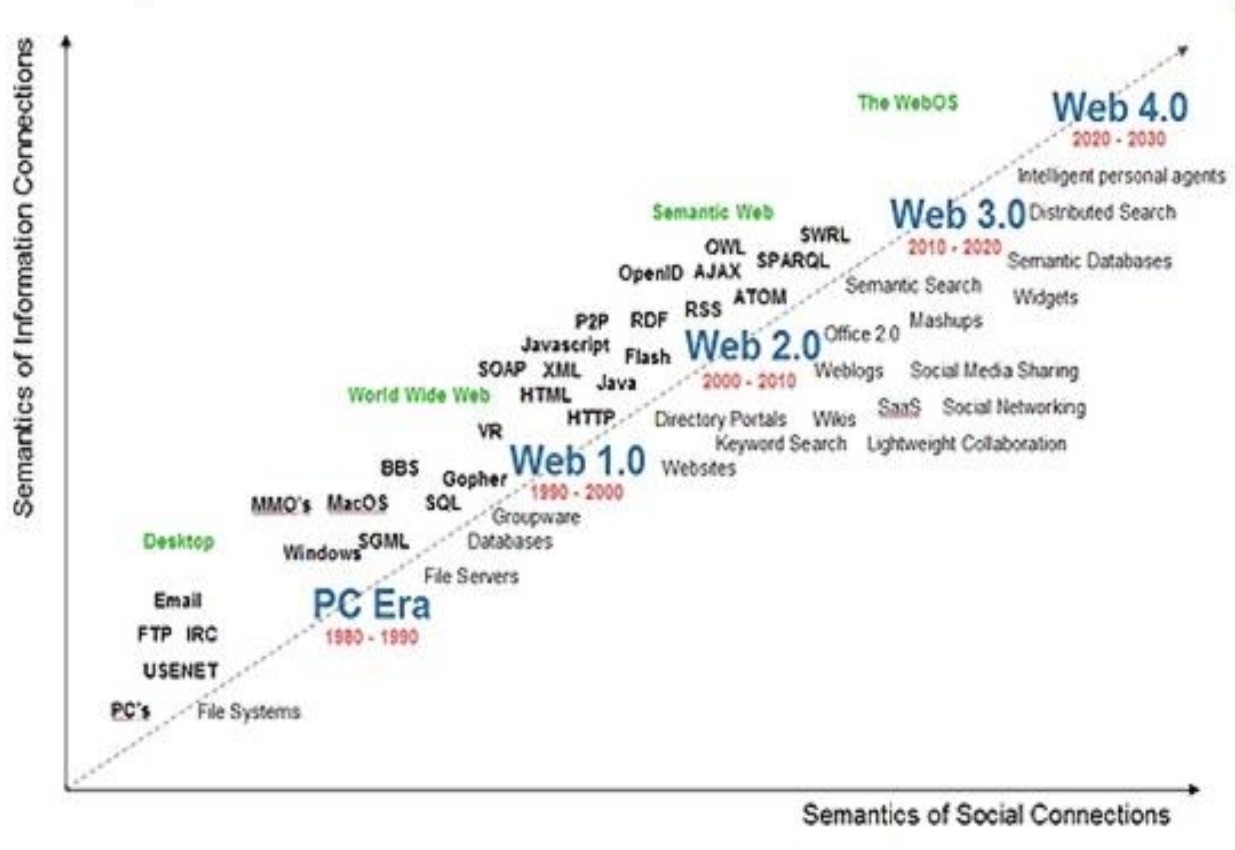

Fig. 1 Digital world and social connections

Source: Radar Networks &Nova Spvlack, 2007 (www.radarnetworks.com)

Web science is interdisciplinary bringing together experts in computer science, software engineering, information systems management, business and economics, knowledge management systems, marketing, public relations and advertising, legislation, journalism and media, communications, psychology, anthropology, social work, design, libraries and scientific information, education.

Digitization (as a process of transition from analogue to digital data systems) and digitalization (as a process that involves using of digitized information) are the cause of profound changes not only in the economy but also in society as a whole, which requires the need to understand these transformations, which can be called digital transformations, leading to the new business and economic models.

Rethinking and accelerating the digitization strategy, with the focus on resilience of economies became critical in case of COVID _19. Developing new remote working concepts imposed the provision of soft- and hardware, and the training of the workforce, was necessary in order to help to solve IT problems fast.

Digital competences are not enough in the digital society to ensure the utilization of the information and the new technologies for the benefit of the communities and the society. It is necessary to have a set of rules, norms, values that ensure their responsible use by each individual.

The need for cyber security is accentuated, as, equally, is the importance of digital identity, both at the individual and macroeconomic level.

An extensive analysis will reveal in conjunction with the new competencies a variety of new specialized roles and completely new jobs related to understanding and capitalizing on the latest technologies: specialists in AI and machine learning, specialists in Big Data, experts in process automation, information security analysts, designers for machine-user interaction, robotics engineers, blockchain specialists, online marketing specialists, social media, e-commerce, influencer, etc. All this correlated with the fact that in the classic activity of jobs mainly related to the quality of human resources will appear new roles conditioned by creativity, innovation and leadership, determines a need for a change of mentality, for a rapid change of human resource management strategies. , starting with the ability to reimagine jobs and routine at the company level (investments in on-the-job training), as part of the innovative approach to active labour market policies (long life learning and labour transformation policies) and of the educational ones (higher level of education, advanced training and new ITC skills)(WEF, 2018, p.12).

Unemployment and measures taken by the governments of European countries

Romania was characterized by major vulnerabilities at the beginning of 2020, but between January and March, no structure in the national economy system was affected so as to highlight a possible economic crisis, which is also reflected in the macroeconomic indicators of January-February. As of March 16, 2020, a few days after the declaration of the pandemic, a state of emergency was established by Presidential Decree (two periods of 30 calendar days each, going into an alert phase with the relaxation of some of the restrictions imposed) which is managed and regulated by military ordinances. Thus, there is a short-term unemployment specific to 2020 on the background of the COVID-19 pandemic, which for a faithful reflection of the labour market imbalance is shown in table no. 1 monthly, starting from December 2019.

The unemployment situation is a direct effect of the administrative measures imposed by the emergency situation generated by the pandemic, and the treatment must be correlated with the structure of unemployment, but also of the other macroeconomic imbalances.

Table 1

Unemployment rate in Romania, under the influence of the pandemic

Ages / Rate	2019	2020								
	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.
15-74	4,0	3,7	4,3	4,6	5,0	5,1	5,3	5,5	5,4	5,1
15-24	17,7	17,4	17,4	17,4	16,9	16,9	16,9	19,0	19,0	19,0
25-74	3,0	2,8	3,0	3,7	4,2	4,3	4,5	4,5	4,4	4,2

Source: statistical data INS www.insse.ro

Table 1 shows the unemployment rate by age groups because labour market policies that can facilitate the integration of the unemployed and other jobseekers into the labour market require programs designed specifically for specific target groups, such as young people, the elderly, people with disabilities. As can be seen in the table, the unemployment rate according to the ILO reached a maximum of 5.5% in Romania in August, shows a slight downward trend, but remained above 5% in September.

Immediate measures, which were taken during the state of emergency or proved to be rather reactive to the health crisis and aimed at monitoring the situation or trying to alleviate the shock felt in the labour market. In March 2020, as a measure to protect employees, employers were able to change the job and the type of work unilaterally and without the employee's consent. Apart from force majeure situations, the Labour Code allows the organization of work at home, the employees establishing their own work schedule, and the employer is entitled to verify the employee's activity. The employer has the obligation to ensure the transport to and from the employee's home, as the case may be, of the raw materials and materials he uses in the activity, as well as of the finished products he makes.

Telework, with full coverage of working time, also offers a useful way to continue working and even create new jobs, for certain sectors of activity and for the field of public administration.

Another significant measure is the one related to technical unemployment, aiming at blocking the termination of jobs, the state assuming the payment of the respective allowances.

For young people aged between 16 and 29 years, measures were taken in accordance with the developments on the labour market because this age group is more vulnerable and has a high impact on the possibility of adjusting the balance of the labour market in Romania. “Employers who are employed, but not later than December 31, 2020, for an indefinite period, full-time, persons aged between 16 and 29 registered as unemployed in the records of the county employment agencies, respectively of Bucharest receive monthly, for a period of 12 months, for each person employed in this category, 50% of the employee's salary, but not more than 2,500 RON. ” (Government of Romania, 2020)

Across Europe, the unemployment situation is even worse, as shown in figure no. 2, which presents a selection of European Union countries.

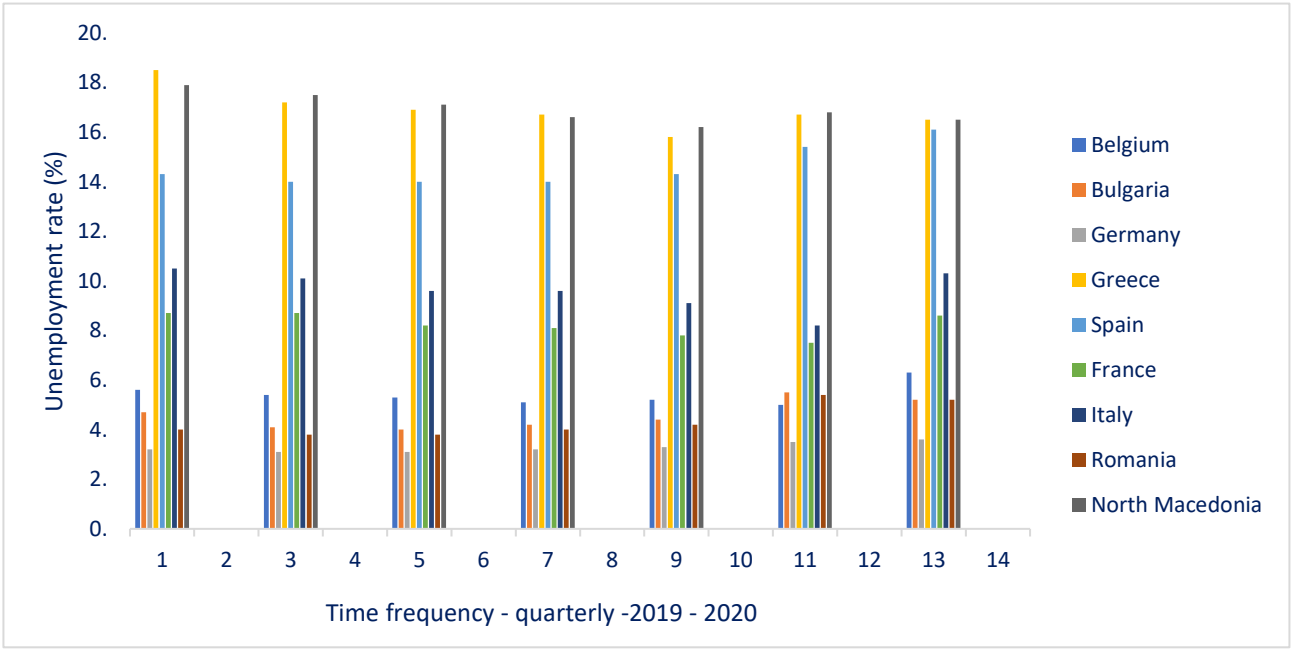

Fig. 2 Unemployment in some countries of European Union
Source: Eurostat

In Italy, dismissal procedures were frozen until the end of March 2021 to prevent discrimination and social exclusion. Also, by Decree-Law no. 18 of March 17, 2020, “social depreciation”

measures were approved, which compensate the reduction of incomes due to social isolation and implicitly the restriction of economic activity, such as: granting a non-taxable allowance of 600 euros / month for freelancers, holders of collaboration contracts and tourism workers (including seasonal workers). With regard to babysitting, the following have been provided for: (i) the possibility for this category of staff to carry out their activity during the period of isolation; (ii) for their remuneration, the children's parents may receive a voucher of EUR 600 to pay for the services provided; (iii) the payment of social contributions during the health crisis (23 February-31 May 2020 in Italy) for the babysitter has been rescheduled until 10 June 2020; (iv) in the case of medical staff, the baby sitter voucher is 1000 euros. Italy proceeded for recruitment of 20,000 health workers.

The largest package of economic rescue measures in history has been launched in Germany, aimed mainly at supporting businesses. However, the program also includes measures for households and specific categories of employees such as the creation of a separate aid fund for smaller companies and self-employed workers, amounting to EUR 50 billion. This fund is intended, for example, for artists, taxi drivers, booksellers, etc.; small companies and sole proprietors, with up to five employees, receive € 9,000 for three months to cover current expenses or pay debts; enterprises with 6-15 employees will receive 15,000 euros for three months.

In Belgium, from March 2020, self-employed workers who can demonstrate that their work has been affected by the COVID pandemic19 benefit from the following facilities: if they find that their income is lower than estimated for the calculation of the tax, they can calls for a reduction in the taxes to be paid; may benefit from the postponement or exemption from the payment of social security contributions (for social security contributions in the first two quarters of 2020, a one-year deferral is granted, without interest on arrears or exemption from the payment of social security contributions); if they have to stop working for more than a week, they are eligible for financial support of EUR 1,266.37 / month if they do not have dependent family members and EUR 1,582.46 / month if they have dependent family.

In France, 100% of technical unemployment is paid by the state. In support of companies but also of the self-employed, social security and tax payments have been postponed. A € 100 billion two-year incentive package was unveiled on September 3, 2020, as gross domestic product (GDP) is expected to contract by 11% and 800,000 job cuts are expected this year. In July 2020, the government presented a plan for youth employment: 6.5 billion euros will be allocated in 2020-2021 to implement assistance for youth employment. An exceptional aid for the recruitment of apprentices was set up for all companies: 5,000 euros for an apprentice under 18 and 8,000 euros for an apprentice major. The plan provides for an additional 200,000 places for training. For young people who fail in higher education, 100,000 new training courses will be offered in the professions of the future (ecological transition, health, digital, priority sectors of the recovery plan).

In Spain, the introduction of a guaranteed minimum income is intended to compensate for lost wages, for Spanish citizens and for foreigners who are legally resident in Spain and have contributed to the social security system.

Minimum wage

Access to decent work for the working age and able-bodied population remains one of the most important sources of income security and a key factor in avoiding poverty or even material deprivation. In many emerging or developing countries, opportunities for decent work were a major challenge even before the pandemic, so providing a minimum income is a public policy solution.

Income granted to protect individuals and households in periods of unemployment prevents people from accepting any offer regardless of their skills or the quality of the job.

"Workers have the right to fair wages, which will ensure a decent standard of living." Principle 6 of the European Pillar of Social Rights, which shows that adequate minimum wages are needed to meet the needs of the worker and his family, taking into account existing economic and social conditions at national level and while protecting access to employment. work and incentives to look for a job. The poverty of the employed must be prevented. Principle 14 of the European Social Pillar states that “Everyone who does not have sufficient resources has the right to an adequate

minimum income to ensure a dignified life at all stages of life and the right to effective access to goods and services. For those who can work, the minimum income should be combined with incentives to (re) integrate into the labour market. " These two principles can be a starting point in designing and evaluating income policy measures with an impact on the labour market.

A European minimum wage policy could make a major contribution to returning to the pre-COVID-19 _19 Pandemic and developing a new, more sustainable and even more competitive, revenue-based growth model in Europe. At the same time, it would give a concrete expression to the idea of "social Europe" and bring new legitimacy to the process of European integration.

Minimum wage statistics published by Eurostat refer to monthly national minimum wages. applied on 1 January and 1 July each year. The basic national minimum wage is fixed at an hourly, weekly or monthly rate, and this minimum wage is enforced by law (the government), often after consultation with social partners, or directly by a national intersectoral agreement. The national minimum wage usually applies to all employees, or at least to a large majority of employees in the country; the information is reported in gross terms.

On 2020, 21 out of the 27 EU Member States had a national minimum wage. EU countries without a national minimum wage were: Denmark, Italy, Cyprus, Austria, Finland and Sweden. Monthly minimum wages vary widely across the Eu Member States, (see Figure 3)

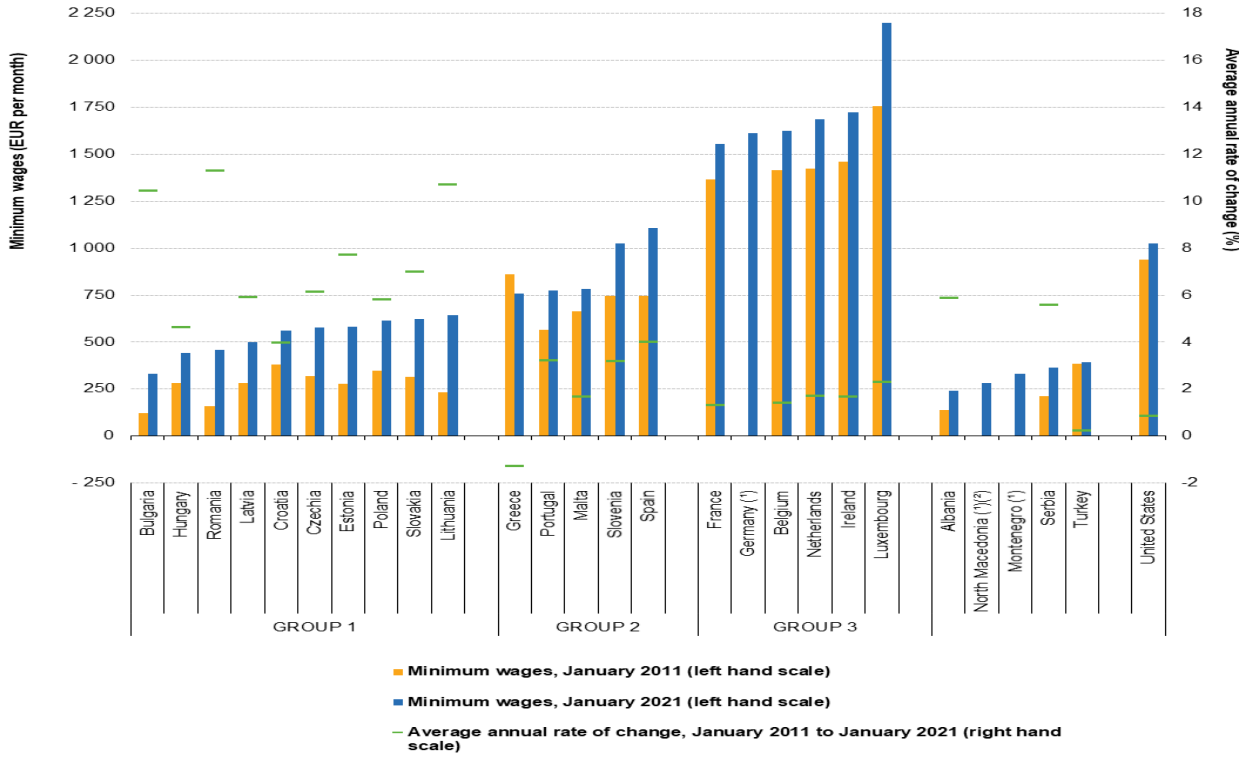

Fig. 3 Minimum wages in Europe

Source:Eurostat (on line data: earn_mw_cur)/ actualized on 08.02.2021

The graphs shows that minimum wages in the EU ranged from EUR 332 per month in Bulgaria to EUR 2 202 per month in Luxembourg, and there are posibillities to groups the countries:
Group 1, Bulgaria, Hungary, Romania, Latvia, Croatia, Czechia, Estonia, Poland, Slovakia and Lithuania, with a national minimum wage below than EUR 700 per month,
Group 2, Greece, Portugal, Malta, Slovenia and Spain with a national minimum wage between EUR 700 but lower than EUR 1 500 per month,
Group 3, France, Germany, Belgium, the Netherlands, Ireland and Luxembourg, with a national minimum wage above EUR 1 500 per month.
Montenegro, North Macedonia, Albania, Serbia and Turkey, had also a national minimum wage.

We can also make an observation on one of the strongest economies in the world, but also among those most affected by the pandemic, the United States which fall at this moment within group 2 (EUR 1 024 per month).

Methodology and Data

The methodology used in conducting the study consisted mainly of the following types of analysis:
• logical analysis of concepts
• institutional, procedural and behavioural analysis of labour market mechanisms,
• statistical analysis and interpretation of the economic significance of specific statistical indicators in the conditions of labour market disruption, under the influence of the COVID_19 Pandemic shock.
• qualitative analysis based on the inventory of numerous specific or contextual approaches to the, the political components of the European social model and the interpretation of vulnerabilities, disturbances and shocks in the labour market in different economies.
The data used are from primary sources or compilations made by international organizations: ILO Statistics Department (ILOSTAT), Organization for Economic Co-operation and Development (OECD), European Union Statistical Office (Eurostat), World Bank (WB), International Monetary Fund (IMF), National Institute of Statistics (INS).

Results

Should decision makers be concerned about the future of work?

Yes, absolutely, even when we discuss about digitalisation and the consequence of this.
Top key skills demand trends identified by authors combining the different reports and surveys could see in next Table.

Table 2

Comparing skills trend

2018	Trending, 2022	Declining, 2022
Analytical thinking and innovation	Analytical and synthesis thinking	Manual dexterity, endurance and precision
Complex problem-solving	Active learning and learning & development strategies	Memory, verbal, auditory and spatial abilities
Critical thinking and analysis	Creativity, originality and initiative	Management of financial, material resources
Active learning and learning & development strategies	Technology design and programming	Technology installation and maintenance
Creativity, originality and initiative	Leadership & social influence	Reading, writing, math and active listening
Attention to detail, trustworthiness	Emotional &social intelligence	Management of personnel
Emotional &social intelligence	Reasoning, problem-solving	Quality control and safety awareness
Reasoning, problem-solving and ideation	Systems analysis and evaluation	Coordination and time management
Leadership and social influence	Innovation and entrepreneurial	Visual, auditory and speech abilities
Coordination and time management	Risk and crises management	Technology use, monitoring and control
Innovation and entrepreneurial	Leadership and vision	
	Management of conflicts	
	Global & transgenerational communication	

Source: after Future of Jobs Report, 2018, WEF

The observations revealed by the table are:

- a continued fall in demand for manual skills and physical abilities;

- a decrease in demand for skills related to the management of financial and other resources as well as basic technology installation and maintenance skills;

- the growing demand for various forms of technology competency highlighted by the sharply increase of skills such as technology design and programming

- the continuing to grow to innovation and analytical thinking and as well as active learning and coaching strategies as an important and valuable skills.

How can the minimum wage be a new instrument in a new development policy?

Elements to be taken into account in determining the level of minimum wages should, as far as possible and appropriate in relation to national practice and conditions, include:

- the needs of workers and their families, taking into account the general level of wages in the country, the cost of living, social security benefits and the relative standard of living of other social groups;

- economic factors, including the requirements of economic development, productivity levels and the desire to achieve and maintain a high level of employment.

We found that the exact interpretation and level of importance of each of the criteria are left undefined, so it could not provide final and unequivocal answers to the question of exactly how an appropriate minimum wage level should be calculated.

There are at least three ways to compare minimum wage levels in Europe:
- a common effective value of the minimum wage calculated in a common currency, usually the euro. The problem with this mode of comparison is that it always includes statistically distorting effects as a result of exchange rate developments. In addition, the actual value of the minimum wage contains little information about its real significance for workers in a given national socio-economic setting.
- a recalculation based on purchasing power, which reflects the different price levels and the cost of living in different countries.
- a comparison of the relative value of minimum wages with average or national average wages.
The latter provides information on the real level of protection of the minimum wage and the status of employees at the minimum level within the national wage hierarchy.

What are the evolutionary trends of unemployment?

There are reasons why the level of unemployment may not reflect the economic realities facing the labour market. For example, the gap between full-time and part-time workers could be reduced, as in March it appeared that part-time workers were leaving the workforce. It is not clear if this is the case, as even workers who would normally work full-time can work part-time for economic reasons. Unemployment rates have tended to rise more for younger workers, even though they may have better digital skills.

Discussion and conclusions

The economic crisis caused by the COVID-19 virus pandemic is manifested by the abolition of jobs and high unemployment. One of the most radical changes for many people during COVID-19 was the shift to telework, thanks to the introduction of quarantine and safety measures. However, in the long run, there will be consequences for working from home because the work-life balance will be affected. During both an economic crisis, both the employer and the employee suffer. Learning strategies can be implemented during and after the crisis to enrich workers' knowledge and skills. Online learning has grown in recent years, and with the help of technology, information is available and easy to access.

In this context, social protection systems can be a solution for many workers, especially for those in the vulnerable segments of the workforce, the long-term unemployed and workers with fewer financial opportunities. Employees could benefit from safety and health measures at work, as they are already facing the stress caused by the pandemic.

Technologies have been shown to be valuable for new work arrangements, widespread use of digitization, private or public online services. It is the moment when the state through its institutions has tried to set a positive example and debureaucratise itself and resort to digitalization, organizing online distance learning, electronic signature in town halls and other public institutions, online counters for all services that already exist (filing tax returns, filing applications, paying taxes, marriage appointments, applying for technical unemployment, etc.) they performed based on previously started processes.

Until recently, we believe that higher wages can lead to lower investment by firms, but this negative effect on aggregate demand can be offset by the increased ability of low-wage workers to spend their income on consumption. Given the COVID-19 pandemic, the various ways and mechanisms by which shocks to aggregate labour and labour market costs have been absorbed will change, so that the effects of minimum wages (both positive and negative) on macroeconomic indicators will have other trends and will require new approaches.

Functionally, a European minimum wage policy would aim to guarantee every worker in Europe a "fair wage" through European criteria for fair national minimum wage standards. In practice, a European minimum wage policy should, in some countries, lead to a rather significant increase in national minimum wages and therefore contribute to the extended development of wages in Europe.

Future Directions

Three next directions I propose:
-The paradigm of labour market at the beginning of 21th century
- Modelling the labour market dynamics based on its micro-fundamentals
-The image of the labour market in Romania and in the EU under the influence of economic crises, which have different triggers will be conducted to interpret a model that would make more visible the possibility of intervention through the public policies in labour markets equilibrium.

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FLEXICURITY MODELS AND THEIR APPLICATION IN THE WORLD

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Abstract:

The paper addresses the concept of flexicurity and the possibilities of intervention through its political components on the labour market during the COVID-19 pandemic. An argument is proposed for the role of the flexicurity model in accelerating the exit from a period of economic crisis. Being implemented separately from the perspective of the labour market, a series of aspects regarding the losses of jobs and the sudden increase of unemployment will be presented by comparing the practical solutions in European countries. In conclusion, the paper highlights the impact of the solutions adopted in Romania and will be debated the benefits of the flexicurity model in the effort to manage equilibrium in the labour market.

Keywords: *flexicurity, labour market, public policies, unemployment*

JEL classification: *J08, J21, J64*

Introduction

In the real economy, the labour market is experiencing a number of disruptions, and political decisions are made taking into account the context that produces them, at the macro level, both economically and socially, although the effects of implementation may manifest themselves at the level of companies or individuals, so that a measure or combination of measures is not always explicitly labelled "flexicurity". This leads to a lack of visibility of flexicurity measures, and in combination with the intangibility and ambiguity of the concept, we are in a situation where quite little is known about the appropriate form of flexicurity in practice, what effects would determine its implementation, and in what way could measure the impact on the labour market.

Flexicurity contributes to improving the flexibility and security of the labour market. The term "flexicurity" appeared in a Dutch debate in 1990 and aims to identify a specific combination of flexible labour markets, generous unemployment benefits and efficient employment services to help the unemployed get paid as soon as possible (European Foundation for the Improvement of Living and Working Conditions, 2008). Flexicurity is supposed to meet the needs of the employer and the employee simultaneously.

Based on this unanimously recognized statement, the paper will present, in the first part, the conceptual definition accepted in the literature from the perspective of its political components, as a central element of European labour market policies. The second part will present, on groups of countries, the application of flexicurity models and correlating with the labour market challenges in the context of COVID-19 will substantiate the arguments for the situation in Romania, for the moment a unitary policy, exclusively dedicated to the labour market.

Defining the problem in the literature

In the literature, the concept of flexicurity has been defined by both researchers, labour market analysts and public policy experts from several points of view, not reaching a universal definition,

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so it continues to provoke controversy and retains a character of ambiguity. It can be said that flexicurity from the perspective of its political components delimits an innovative area of application on the labour market, reflecting the European vision of sustainable development and carries, by definition, the burden of two seemingly conflicting goals, one of achieving the renewed Lisbon strategy, and another to modernize the European social model.

Flexicurity is needed to address both the socio-economic challenges of globalization and the widespread diffusion of new technologies and demographic aging, while providing a safety net for workers to help them become more flexible and "employable". As the security of workers is no longer guaranteed by the stable employment relationship, a set of policy interventions is needed to support safe transitions from one job to another and from activity to inactivity and vice versa." (Aliki Mouriki, 2009)

The Lisbon Strategy, adopted by the Lisbon European Council, aims at economic growth and employment to achieve the European Union's main strategic objective, which is to increase the competitiveness of the European economy. These objectives are met by increasing the labour force, the flexibility of the labour market, together with increasing the social protection of workers. Flexicurity policies support the objectives of the Lisbon Strategy and contribute to the modernization of the European social model.

Flexicurity through its political components, respectively the 4 directions of action:

- flexible and reliable (secure) contractual arrangements, (CFS), from the perspective of the employer and the employee, referring to the “insiders” (those who hold a job) and the “outsiders” (unemployed, and implicitly from the labour income of an organization, those who can increase the number of unemployed) proposes in order to increase flexibility at the level of employers, a modern labour legislation, new collective agreements and new forms of work organization reflected in the contractual conditions; Examples of this kind of measures: determined duration of employment contracts, reduction of working hours, reduction of work program; increasing the number of contracts with a reduced and atypical daily schedule.
- lifelong learning strategies, (LLL), induce employee flexibility (with state and / or private employers support), by acquiring new knowledge and developing skills as a basis for employability (labour market entry) or continuous adaptability, in particular to people belonging to vulnerable groups; Specific measures are: increasing the mandatory schooling period; on-the-job training (apprenticeship); formal and informal training and professional development programs.
- active (effective) labour policies (AP), aimed at facilitating the transition through unemployment and enabling firms to maintain productivity levels; (PA) can be defined as a set of economic measures applied “to improve the functioning of the labour market, which are targeted at the unemployed” or, in other words, “to improve labour market, the market position of unemployed workers”. They are also aimed at keeping risk jobs and activating inactive people. In the last two decades, (PA) has generally been understood as a pillar of a broader public policy framework, aiming “to bring more people into the workforce effectively, to counteract the potentially negative effects of unemployment. (PA) belong to the category of policies that also include passive measures, such as unemployment benefits / benefits and related social assistance or health benefits. These are policies promoted by the Organization for Economic Co-operation and Development (hereinafter: OECD) and the European Commission, which are convinced that they will help reduce unemployment and boost employment of the work force.
  The two main functions can be described as "economic" and "social". The "Economic Function" (AP) refers to the economic performance of labour markets, such as job creation, human resource allocation, matching labour supply and demand, and overcoming structural gaps in this regard. The "social" mitigates the social consequences of poor performance in the economic and labour market and seeks to remove barriers to employment by including vulnerable, socially excluded and unemployable or hard-to-employ categories.

  Three fundamental target groups target (AP):

  - the unemployed,

- employed persons who are endangered by involuntary, possible loss of employment and
- inactive people who can and would like to enter the labour market, being able and dispose for work.

Therefore, the measures are aimed primarily at employment and the inclusion of the most vulnerable, excluded social groups, difficult to employ and disadvantaged in the labour market, ie groups with the lowest employment prospects and economic inclusion. In this respect, the typical target groups of the measures (PA) are women, the elderly, the young, the long-term unemployed, the low-skilled, the disabled, immigrants and others.

Structural measures (PA) are integrated into programs and projects in the form of:

• "Fighting youth unemployment and preventing long-term unemployment";

• “A more friendly approach to employment: taxes, allowances and training systems”;

• "Development of a policy for prolonging active life";

• “Development of skills for the new labour market in the context of lifelong learning”;

• “IT training for all citizens”;

• “Active policies in order to correlate the demand with the supply on the labour market and to prevent the lack of qualified labour force”;

• "Combating discrimination and promoting social inclusion by ensuring access to employment".

- modern social security systems and good mobility, (OSH) which include a wide coverage of social protection insurance (state or private social insurance - pensions, insurance and health care, unemployment benefits and other categories of benefits), providing adequate income support. One of the characteristics of this component is paying attention to work in combination with private and family responsibilities, such as raising children, caring for the elderly, supporting people with disabilities. It is a component that starts from a given level of employment and aims to find solutions for hiring the surplus labour force in a relatively shorter term. It acts on the cost of unemployment. Until the decrease of unemployment, it focuses on the protection of the unemployed, unemployment or insertion in the labour market, the withdrawals from the labour market of some active people, the management of the problems of the elderly. Other specific measures refer to lowering the retirement age, or early retirement without penalty.

it becomes a pillar of European social policy, an instrument of sustainable economic growth.

"A broader understanding of the concept of flexicurity, which covers almost all dimensions of labour regulation, including in the workplace, has at least two main influences, which are clearly recognized in the EU approach:

- the central role that the social partners and industrial relations can play in specifying flexicurity;
- multiplying the possible "models" of flexicurity, which can result, in principle, from the combination of very different sources of both flexibility and security." (Roberto Pedersini, 2008)

"Eamets and Paas (2007) define flexicurity as an increase in labour market mobility - job flows, labour movement, functional and occupational mobility, geographical mobility and flexible working time arrangements - with opportunities to achieve a new job and not to lose substantially in terms of income level. The last two characteristics mean that the unemployed should receive sufficient training and active support in the labour market to get a new job quickly." (European Foundation for the Improvement of Living and Working Conditions, 2007)

In 2010, the Europe 2020 Strategy:
- set a target of 75% rate of employment in the EU
- solutions are searched for new skills and jobs
- flexicurity policies are applied for new equilibriums in the functioning of the labour market

- more emphasis is placed on job quality and working conditions.
It demonstrates that "Flexicurity is not just a concept or a theoretical model, it has mainly practical and legal implications for labour market support or regulation tools based on public or social partners." (European Foundation for the Improvement of Living and Working Conditions, 2012).
In 2016, the foundations of the European Pillar of Social Rights with three components are settled:
• equal opportunities and access to the labour market,
• fair working conditions,
• access to adequate and sustainable social protection, leading to a permanent intertwining of the objectives of sustainable development with the objectives of European strategies.
In 2019, the European Labour Authority will start operating, which:
• comes up with solutions to support fair mobility
• establishing the European social security number
• aims to strengthen cooperation between labour market authorities at all levels.

In 2020, Next Generation EU establishes a recovery plan for damage repair economic and social caused by the coronavirus pandemic. This will put on the foundations for a modern and more sustainable Europe, which post-COVID-19 will be greener (ecological, zero-carbon), more digital, more resilient and better suited to current and future challenges, at least as statements of intention. Thus, it can be considered appropriate a research in the direction of re-conceptualization in accordance with the disturbances of the labour market and its future.

We thus redefine, Flexicurity as a direct and explicit public policy consisting of all the rules, institutions and procedures that are meant to adjust, from the perspective of public authority, the important macroeconomic balance in the real economy, between labour supply and demand, meaning the equilibrium of labour market, by controlling the trajectories of the unemployment, the rate of employment and the level of work income with all relevant implications at both macroeconomic and macrosocial level in a single labour market (national, regional or global).

From the perspective of labour market policies, especially flexicurity, as we have redefined it, as a mix of policies, it is essential to understand which specific types of interventions are most effective in improving labour market performance. In the second part of the paper we will observed and compare, the traditionally wide range of active and passive policies but in the process, we conclude the results obtained from the simple operation of active / passive policies do not provide any concrete guidance on the cause-and-effect ratio in the labour market implementation, on the impact of application or on prioritizing types of expenditure / investment. these policies.

The purpose of the mix is to take over the functions and objectives of the useful measures in a new regulatory framework, so that the effects of the application are synergistic and not contrary.

The brief comparison of flexicurity models

EU Member States have often encountered imbalances in the labour market and this makes labour markets difficult to adapt to change and productivity is slowing down. Below are detailed groups of countries with common characteristics and can implement the appropriate flexicurity model. Together with these, we have introduced information on unemployment during the crisis created by the COVID-19 virus pandemic, in order to be able to analyse the measures adopted in some of the EU countries.

The Nordic Group (Denmark, the Netherlands, Finland, Sweden) is characterized by high flexibility and high security, the labour market is flexible, protection system for the unemployed, active training measures, flexibility and mobility for employers and employees. Gives an important role to lifelong learning policies.

During the crisis created by COVID-19, for Danish companies, which are facing large declines in demand, employees can be sent home, and the government will cover 75% of salary (maximum DKK 30,000, approximately EUR 4,000), if the company promises not to dismiss any worker for economic reasons. Companies will also have to cover the remaining 25% to ensure that employees can keep their full salary. For hourly paid workers (without notice period), the compensation rate is 90% (maximum EUR 3500).

The measures applied in Finland during the COVID-19 crisis are the following:

- As of April 1, dismissed employees are entitled to unemployment benefits, even if they are employed in commercial activities or studies.
- Temporary recognition of entrepreneurs and self-employed workers as beneficiaries of unemployment benefits.
- Elimination of the waiting period for unemployment benefits.
- Increase in parental benefits, social assistance and unemployment insurance (EUR 3 billion).

The Liberal / Anglo-Saxon Group (Ireland) is characterized by high flexibility but low security. The labour market is flexible, with wages at the level of the minimum wage regulated by law, deficient human capital, instability, high rates of obtaining secondary education.

In Ireland, a payment is available for all employees and the self-employed who have lost their jobs due to the recession of economic activity caused by the COVID-19 pandemic at a flat rate of EUR 350 per week. "In terms of priorities for the future job, the survey found that lifelong learning is a high priority for 49% of people in organizations, with career transitions and flexible start / arrival times reaching 38%, respectively 33%. Reduced working hours were classified as a high priority with only 10% and only 8% answered that a compressed working week is a high priority. " (Farrelly, Roisín, 2020)

Continental Corporatist Group (France, Belgium, Germany, Austria, Luxembourg, Slovenia) is distinguished by low flexibility and high security, high income and protection system for the unemployed. Labour market flexibility measures, vocational training measures are active.

In Austria during the crisis created by COVID-19, the unemployed will receive unemployment benefits in the amount of the previous unemployment benefit and will maintain protection for placement in the previous occupation and an income similar to the previous one. Unemployment benefits are relatively low in Austria, at 55% of last net income. Due to the crisis, it is difficult to find a job quickly, and the unemployed are at risk of poverty.

In Belgium, a special unemployment system has been adopted, which consists of a transition from temporary unemployment due to force majeure to regular economic unemployment and will be applicable until 31 December 2020. Workers in temporary unemployment will receive an advance of EUR 1450 during the processing of their file. The worker receives 70% of his average capped remuneration (before 65%), with € 5.63 / day of unemployment.

Companies in France, in sectors that have suffered a sharp decline in activity, continue to benefit from partial unemployment coverage of 100% by the state.

Germany partially provides job retention benefits, through unemployment insurance institutions, to workers and / or enterprises affected by a reduction in activity which results in a reduction in working hours, loss of turnover and / or temporary closure.

The Mediterranean Group (Portugal, Italy, Greece, Malta, Romania) is based on economic growth based on tourism, agriculture, construction. It is represented by a reduced flexibility and at the same time by a reduced security. Unemployment is relatively high and employment is low. Despite the rigidity, the percentage of temporary employment is the highest.

During the current crisis in Italy, companies that are not eligible for the job retention scheme in the event of a reduction in activity or a reduction in working hours receive salary compensation (EUR 600 / month). It is equal to 80% of the hourly wage.

In Romania, a wage subsidy is granted for workers in temporary (technical) unemployment. The government will cover up to 75% of wages, but does not exceed 75% of the national gross average salary of employed workers, but who cannot work in companies that have had to suspend activities due to restrictions imposed by the government and in companies whose turnover business was reduced by at least 25% due to the pandemic (as evidenced by a certificate issued by the government).

Portugal has also taken action in the current context for unemployed workers:

- Automatic extension of unemployment benefits and all benefits guaranteeing minimum subsistence levels to be completed in the coming months.
- Support for employment, especially for the new unemployed - includes employment and internship support programs, along with programs for strategic sectors and target groups.
- Vocational training - based on training and retraining programs: reviewing and consolidating responses to the qualification and retraining program for the unemployed

The Baltic Group (Estonia, Latvia, Spain) is characterized by low security. Also, incomes and employment are low in these countries.

For the unemployed in Estonia, the unemployment insurance fund will cover 70% of workers income for two months. The gross amount to be paid per employee per month is EUR 1,000. The unemployment insurance fund and the employer will pay all labour taxes on wages and benefits. The benefit is calculated on the basis of the employee's gross salaries for the last 12 months, plus the remuneration paid by the employer to the employee, which is not less than EUR 150 gross.

In Spain, the amount of unemployment benefit for people who lost their jobs during the COVID-19 period is 70% of its contribution base and a maximum of the minimum inter-professional wage. The subsidy is compatible with other salaries if the minimum inter-professional wage is not exceeded.

The Group of Eastern European Countries (Czech Republic, Hungary, Poland, Cyprus, Slovakia) is characterized by lower and medium flexibility and average levels of taxation. There is a small share of temporary and part-time jobs in the labour market. Total spending on social protection and active labour market policies tends to be low. It is distinguished by reduced mobility and reduced participation in lifelong learning schemes.

The Czech Republic provides specific job protection packages, which include measures such as: short-term work, short-term unemployment benefits, income compensation for workers who have lost their jobs.

In Hungary, short-term social protection measures are applied during the COVID-19 period, such as extending eligibility for unemployment benefits, cash transfers to meet basic needs.

It is estimated that in Slovakia around 70% of all employees who lose their jobs due to COVID-19 will be eligible for unemployment benefits. The duration of the unemployment benefit was extended by one month, in cases where it would have expired during the crisis situation. Employees receive 80% of the average salary if their employer had to close the business due to the current crisis.

Regardless of the purpose and conjuncture of the application, the following can be found as common and defining features of flexicurity:

- The possibility of making employment contracts more flexible, thus avoiding the withdrawal from the labour market of certain categories of people, respectively of the elderly or those with a low level of qualification, respectively of several vulnerable categories
- Improving lifelong learning, so that competent and well-trained people lead to their own development, that of employers and, finally, to the growth of the economy
- Active policies that induce a more flexible labour market and contribute to labour mobility
- Modernization of social protection systems in order to maintain the balance between the personal and professional life of employees and to evolve towards a permanent and generalized state of well-being on the population.

The purpose of each component of flexicurity converges with the European Pillar of Social Rights, namely:

(1) equal opportunities and access to the labour market,
(2) fair working conditions,
(3) access to adequate and sustainable social protection.

In order to achieve these goals, it can be considered that lifelong learning strategies (LLL) are those that ensure the continuous adaptability and employability of workers, especially the most vulnerable. We further address this component to highlight that it can play an important role in overcoming an economic crisis.

One can refer, first of all, to the global financial crisis of 2008, starting from the analysis of the data from 2007.

The following variables will be used in comparing flexicurity models:

- Lifelong learning (LLL)
- Training

For the training variable, in table no. 1 is the percentage of respondents who have participated in training courses during the last 12 months, including on-the-job training. And for lifelong learning is the percentage of the population aged 25 to 64 who participate in education and training in the four weeks before the survey - this is the numerator. The denominator consists of the total population of the same age group, except for those who did not answer the question on "participation in education and training". The information collected relates to all types of education or training, whether or not relevant to the respondent's current or possible job.

Table 1|:

Average value (%) of variables by group of countries (2007)

Variables	Denmark, Finland, Sweden	Ireland, Cyprus, Estonia, Lithuania, Latvia	France, Belgium, Germany, Austria, Luxembourg	Netherlands, UK	Spain, Portugal, Italy, Greece, Malta	Czech Republic, Hungary, Poland, Slovenia, Slovakia
Lifelong Learning (LLL)	28.6%	7.3%	8.2%	19.3%	4.2%	7.3%
Training	43.3%	23.2%	25.2%	38.0%	15.0%	21.4%

Source: authors processing according to the European Foundation for the Improvement of Living and Working Conditions, 2007

The group of countries with the highest values of the variables consists of Denmark, Finland and Sweden, which represents the Nordic Flexicurity Model. In these countries the average of lifelong learning and training are 28.6% and 43.3%. In Denmark, job rotation gives employees working for any private company the opportunity to take long-term training leave, while their job is held by a substitute (ideally unemployed). And in the Netherlands, there are local centres for increasing labour mobility initiated by, among others, employers who have recruited employees with disabilities who have been absent from work due to a long-term illness. If the employer cannot provide a job for an employee when returning to work within the company, the employer is obliged to help find a job with another employer. Groups of Member States with certain deficiencies will take steps to improve the characteristics of the labour market, to deal with difficult situations. The group of countries with a high level of job security, but in a rigid labour market, will take measures to make the labour market more flexible. And, for the group of countries with a high level of labour market flexibility, measures will be needed for the protection and safety of workers.

A qualitative analysis of the application of the LLL is carried out by Eurofound through its surveys on working conditions. The survey applied in all European countries measures working conditions, problems, risks, areas of progress, in order to contribute to the development of EU policy aimed at improving the quality of jobs.

Records from the last report published based on the 2015 survey, in which 44,000 workers (employed and self-employed) were involved are mentioned in table no. 2. The questions in the questionnaire which were the basis of the research were intended to obtain information on employment status, work organization, learning and training, duration and organization of working time, physical and psychosocial risk factors, health and safety, work-life balance. professional and personal life, employee participation, earnings and financial security work and health.

Table 2:

Proportion of workers in the EU28 (%)

		Proportion of workers in the EU28 (%)		
		2005	2010	2015
Training	Training paid for or offered by the employer in the last 12 months (or paid for alone if self-employed)	26	34	38
	On-the-job training in the last 12 months	26	32	34

Source: authors processing according to the European Foundation for the Improvement of Living and Working Conditions, 2017

The data represented in the table show that the percentage of training paid or offered by the employer in the last 12 months (or paid by himself if he works on his own account) increased from 26% in 2005 to 38% in 2015. On-the-job training in the last 12 months it has also increased from 26% to 34% in the same year. However, training is appreciated by workers for the benefits they have at work. It is observed that by any chosen method, training is necessary for the integration of employees, rapid learning of new tasks, accumulation of skills and provides security to the employee.

Eurofound will publish the first results of the survey conducted in 2019 on working conditions in 2021.

The following figure (figure no. 1) shows the training provided by the employer, with the highest percentage in Finland, then in the Czech Republic, Ireland, the Netherlands, and the lowest percentage is in Greece. And the training not received but required of the employer has a high percentage in Denmark and a low percentage in Slovakia.

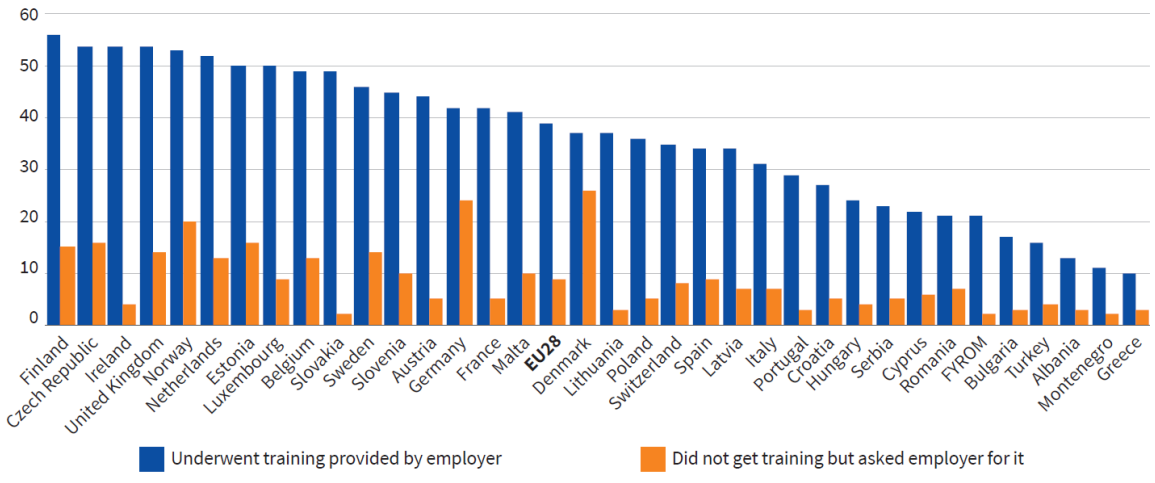

Figure 1 - Access to training provided by the employer, by country (% of employees)

Source: European Foundation for the Improvement of Living and Working Conditions, 2017

Although training builds new knowledge and increases employee and employer benefits, workers who need training may not always receive it. On-the-job training can increase employment in the future by increasing the level of skills and education. The International Labour Organization estimates that global unemployment would be 192 million people in 2018, which would still recover

from the crisis of 2008. The labour market participation rate has fallen and even stagnated in some regions, without returning at the pre-crisis level.

The second economic crisis is the one triggered by the COVID-19 pandemic, whose dimensions and characteristics are not known exactly, but about which a whole literature has developed rapidly. There is still uncertainty about the impact of the epidemic on human health and life, there are uncertainties about what the economies will look like after leaving the state of emergency and alert on physical health and of course the unpredictability of the situation makes many of the consequences of "stopping" the economies could be purely speculative, but the existence of immediate effects on firms, labour and the labour market have led to immediate action by governments that need to be studied, analysed.

Without going into significant detail, given the scope of the work, it can be seen that the epidemic caused by coronavirus is a major shock to the European economy, especially the labour market, and the main purpose of the measures is to protect lives and living standards. The Emergency Risk Mitigation Support Tool (SURE) was launched in April 2020 to help keeping jobs and help vulnerable families. The pandemic highlighted even more aggressively the disruption caused by technologies in the labour market by increasing digitalization and digitization, new types of work (remote work, telework), new work tools (computers, telephones, automatic machines), and, for many, the new environment of work (internet) making new skills necessary, implicitly new education and training programs, both vocational and academic, and new methods of training. The European Commission's proposals in the field of education and training policies aim to make systems more modern, more attractive, more flexible and more appropriate for the digital and green economy.

Another problem accentuated by the current economic crisis refers to the access of young people to the labour market, to the difficulty of finding a job for the first time. In April 2020, youth unemployment in the EU was 15.4%, although in recent years there has been a decline in the unemployment rate, even the number of NEET young people, it is still twice as high as among the other age groups. Europe's response to this challenge has been "A Bridge to Jobs for the Next Generation", a package of measures to support youth employment that includes, in the short term, incentives for employment and business start-ups and, in the medium term, capacity building, networks of young entrepreneurs and inter-enterprise training centres. Approximately 22 billion euros are allocated for this purpose.

The future will be able to demonstrate, by analysing the statistical data we will have starting with 2021 that with education and training systems, more agile forms of LLL, focused on students, young people will be better prepared for their first job, and adults will be more likely to advance in their careers, change careers or extend their working life.

Aspects of flexicurity in Romania in the current context

In Romania, there are measures of labour market policies specific to flexicurity, so we proceeded in the analysis by analogy with the countries that have implemented integrated measures. The level of labour market imbalance in Romania can be observed in the unemployment situation in recent years, as shown in figure no. 2.

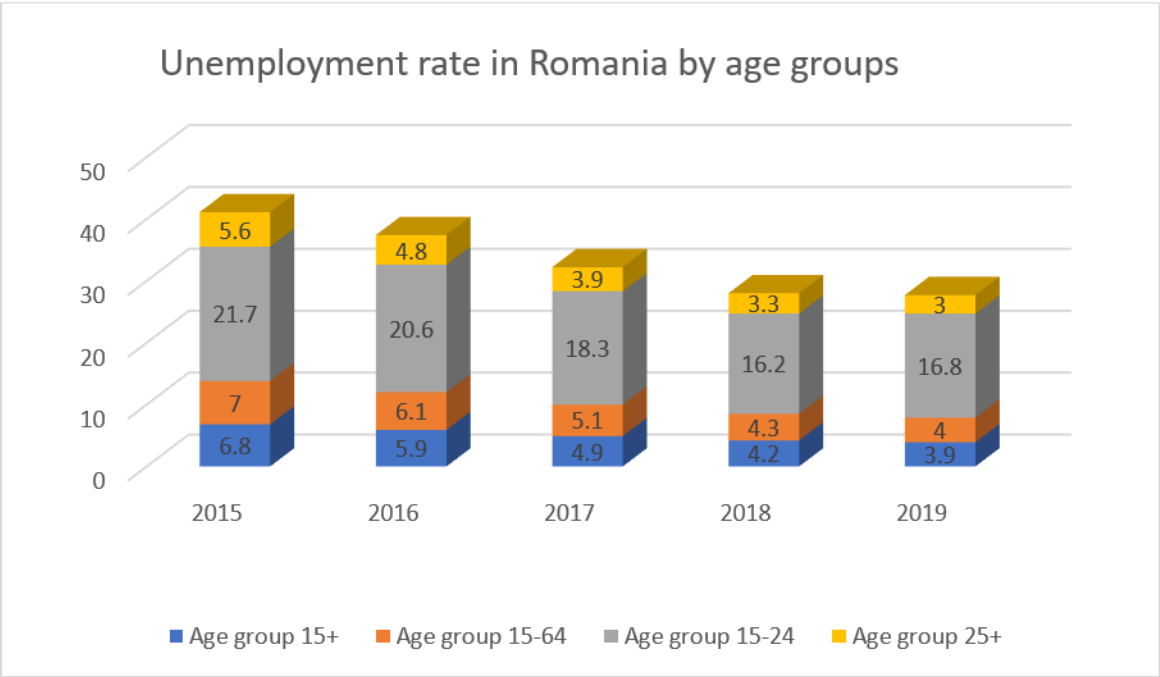

Figure 2 - Unemployment rate in Romania by age groups

Source: authors processing according to Eurostat

A high level of unemployment shows a structural imbalance of the labour market in these years to which is added a short-term unemployment specific to 2020 amid the COVID-19 pandemic.

For a faithful reflection of the phenomena manifested in the labour market in the context created by the COVID-19 pandemic, the data provided by the Ministry of Labour and Social Protection (MMPS) can be used in daily communiqués as processed in the graph in figure 3.

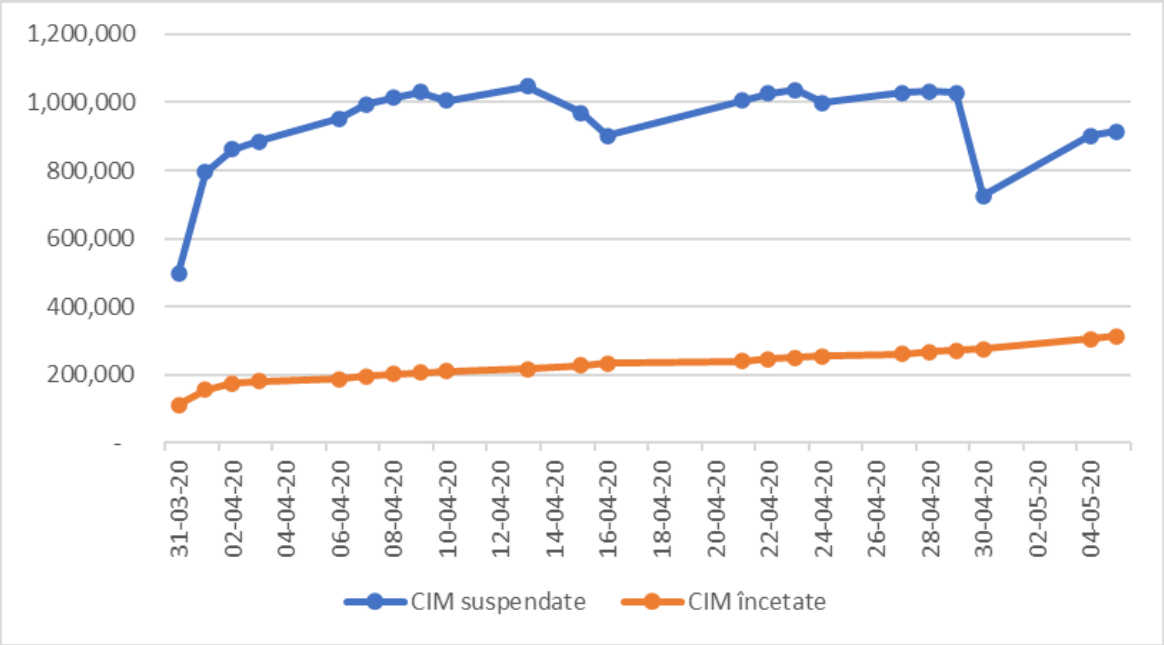

Figure 3 - The daily situation of employment contracts after the establishment of the state of emergency

Source: Ministry of Labour and Social Protection, author processing

The figure shows a rapid doubling of the number of individual employment contracts suspended in the first decade of April, followed by small variations around 1 million. Employment terminated contracts during the same period follow an upward trend, almost tripling.

The unemployment situation is a direct effect of the administrative measures imposed by the emergency situation generated by the pandemic, and the treatment must be correlated with the unemployment structure.

Unemployment among young people can exist along with a high demand for work. Labour market policies can facilitate the integration of the unemployed and other jobseekers into the labour market. Such policies and programs are designed specifically for specific target groups, such as young people, the elderly, people with disabilities.

The situation presented requires an increased adaptability of youth policies in order to positively influence the balance of the labour market. Better flexibility of young people's participation in the labour market through employment offered by employers can be achieved through education and training, new skills being acquired both formally and informally. Lifelong learning policies will contribute to this, with the advantage that they can also benefit older active people and even those over retirement who have the capacity to work. For these categories, by using LLL, employers can consider temporary employment. Given these, there is flexibility in the labour market but it is important that employees do not lack safety at work. We can focus on maintaining the balance between labour market flexibility and employee security in the workplace, which in the current situation can be a real solution to overcoming the created crisis.

Social protection maintains its role of providing security for workers and motivating them when it comes to their income. "Flexicurity is a social protection for the flexible workforce understood as an alternative to pure flexibility, but not at the cost of relaxing employment protection for normal employees" (Keller and Seifert, 2004). This means many benefits for workers, such as: flexible employment contracts, active and efficient labour market policies, lifelong learning strategies and modern social protection systems. The following aspects are known about social protection in Romania.

Table 3 - Social protection in Romania (2017)

Population in at least one of the following categories	Children	Mothers with newborns	People with severe disabilities	Unemployed people	Elderly people	Vulnerable groups
95.0 %	100.0 %	100.0 %	100.0 %	23.0 %	100.0 %	82.6 %

Source: ILO (International Labour Office), 2017

- The proportion of the population in at least one category is calculated from the total population that receives benefits for at least one of the situations presented (contributory or non-contributory benefit) or that actively contributes to at least one social security system.
- The proportion of children receiving social protection is calculated as follows: the ratio between children / households receiving child benefits and the total number of children / households with children.
- The proportion of women giving birth to maternity benefits is as follows: the ratio of women receiving maternity benefits to women giving birth in the same year (estimated on the basis of age-specific fertility rates published in the UN National Population Outlook or the number of births live corrected by the share of twin births and triplets).
- Proportion of people with disabilities receiving benefits: the ratio of people receiving disability benefits to people with severe disabilities. The latter is calculated as a product of the prevalence of disability ratios (published for each group of countries by the World Health Organization) and the population of each country.
- Proportion of unemployed people receiving benefits: the ratio between the beneficiaries of unemployment benefits and the number of unemployed.
- Proportion of older people receiving a pension: the ratio of people over the legal retirement age who receive an old-age pension (including contributory and non-contributory) to people over the legal retirement age.

- Proportion of vulnerable people receiving benefits: the ratio between social assistance beneficiaries and the total number of vulnerable people. The latter are calculated by deducting from the total population all persons of working age who contribute to a social security system or who receive contributory benefits and all persons over retirement age who receive contributory benefits.

There is a high level of social protection, the percentage of the population that benefits from any type of benefit being quite high. Workers who have lost their jobs receive unemployment benefits, but the percentage of those who receive them is quite small. Social security systems can be important tools for preventing, improving and reducing poverty.

Conclusions

Implementing a flexicurity model in each of the 27 EU member states is an ideal strategy for a stable economy and recovery from an economic crisis. As labour markets become more flexible, social protection systems will need to adapt to provide support for safe transitions between employment and unemployment.

The economic crisis caused by the COVID-19 virus pandemic is manifested by the losses of jobs and high unemployment. One of the most radical changes for many people during COVID-19 was the shift to telework, thanks to the introduction of quarantine and safety measures. However, in the long run, there will be consequences for working from home because the work-life balance will be affected. During both an economic crisis, both the employer and the employee suffer. Learning strategies can be implemented during and after the crisis to enrich workers' knowledge and skills. Online learning has grown in recent years, and with the help of technology, information is available and easy to access.

In this context, social protection systems can be a solution for many workers, especially for those in the vulnerable segments of the workforce, the long-term unemployed and workers with fewer financial opportunities. Employees could benefit from safety and health measures at work, as they are already facing the stress caused by the pandemic.

Implementing a flexicurity model would be the solution that reduces the effects of the crisis and will allow job creation and a high level of employment. And ultimately these measures will lead to a way out of the crisis and to sustainable economic growth.

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THE ORIENTATION TOWARDS A EUROPEAN FISCAL UNION - ARGUMENTS FOR AND AGAINST

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Abstract:

In the proposed paper we will present arguments for and against a fiscal union at European level, amid intensified debates over its establishment. In order to identify the arguments, the context of the emergence of the fiscal integration process and its intensification will be presented, as well as the concepts of integration and fiscal union. The research methods used for the elaboration of the paper are empirical analysis and inductive reasoning, and the anticipated results can be benchmarks that can bring certain guidelines towards the support or not of a fiscal union at European level.

***Keywords**: fiscal sovereignty, fiscal coordination, fiscal integration, fiscal union.*

***Jel classification:** E62; F15; H77.*

Introduction

The philosophy of the European project, of creating and developing the single market through the four freedoms (goods, services, capitals and people), has constantly generated discussions and debates on its formalization, of situations not included in this institutional construction, of the progresses and deficiencies registered. / found. The acceleration of the creation of the single market, under pressure from Member States with influence in the decision-making process, to expand their markets, has put fiscal-budgetary issues in the background, which over time have proved to be extremely necessary, both the integration process into the European Union (EU) and the Economic and Monetary Union (EMU), as well as into the functioning of the single market.

Against this background, concerns and concrete actions have emerged to implement fiscal-budgetary regulations, formalized in official EU documents, assumed by Member States, progressively adjusted, in particular, after economic events such as financial and economic shocks / crises.

The sovereign debt crisis and the financial crisis have led to a more intense resumption of debates on the elements affecting the strengthening of EU and EMU policies. These mainly concern the need for deeper fiscal integration and its correlation with economic and monetary policy.

A first idea of the possibility of completing EMU with a form of fiscal union appeared in 1977, in the MacDougall report, which suggested the creation of a budget of about 5-7% of EMU's Gross Domestic Product (GDP) in a first stage, the ultimate goal being to create a tax federation in the EU in which federal public spending reaches a level of 20-25% of EU GDP (similar to the level of the US federal budget).

Much later, in the years 1992-1993, when the Maastricht Treaty was laid, laying the modern foundations of the EU and EMU, on the basis of meeting monetary and fiscal convergence criteria, no draft union was foreseen. Except for the fiscal criteria (budget balance and public debt limits) which have the role of ensuring a certain fiscal discipline, transposed into a preventive and corrective operational mechanism, through the Stability and Growth Pact (SGP), approved in 1997 and entered into force in 1999.

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In terms of debate and research on the course and future of the European and monetary union project, both supporters and critics of these projects have had common conclusions, in order to emphasize the major role of deeper fiscal integration in consolidating and expanding EMU, but at national level, there was strong political resistance to the partial surrender of fiscal sovereignty and, in particular, to the possibility of sharing budgetary resources, which also translated into the European Parliament where no political agreement could be reached.

Concerns about fiscal issues existed at the beginning of the European construction in a more discreet form, and since 2010, they have increased, especially during the elaboration and negotiations on certain European agreements / treaties, respectively during the negotiations on PSC, at the time of its reform and during the debates on the Stability, Coordination and Governance Treaty (TSCG), but also in these moments of the COVID-19 pandemic, when certain fiscal deficiencies are more obvious.

In this direction, in the period 2010-2013, a series of new measures were adopted aimed at smoothing and consolidating the fiscal integration process, measures that are practically the "embryo of the fiscal union" and consisted of: European Semester (2010); the so-called Six-Pack (2011) and the Two-Pack legislation (2013); European Stability Mechanism (ESM); European Financial Stability Facility (EFSF) and TSCG (2013). Also, the European Commission (EC), in its plan... Deeper and more authentic EMU since 2012, presented and supported the same direction, but later, in 2015, the Report of the five Presidents did not offer a definite vision in the same direction, but a more nuanced one on the deepening of fiscal integration and the perspective of a fiscal union, being proposed two stages: i) creation of a European fiscal council with consultative role to coordinate and complete the already existing fiscal councils at national level (achieved); ii), the establishment of a common macroeconomic stabilization function in order to deal more effectively with shocks that cannot be managed only at national level (function performed through the European Fund for Strategic Investments - EFSI).

From this brief foray into the history of the EU / EMU fiscal integration process, it was found that concerns for fiscal policy were not permanent, but rather occasional / conjectural, amid economic, financial or economic shocks, which shook the process of integration and consolidation of European construction, which sporadically appeared in the debate. Gradually, concerns and debates intensified, becoming a constant concern of European leaders in this field, but also of research economists, being, as previously presented, a series of measures implemented, creating new institutions and mechanisms, practically a new formal and institutional architecture in the process of fiscal-budgetary integration, having as main objective the construction of a fiscal union.

Against this background, concerns in this direction have become more and more frequently in topics and topics of debate at academic and political level, which have contributed to its evolution and improvement, from relatively simple rules to a monitoring process and coordination of the fiscal policies of the Member States, by implementing in national legislation, rules common to all Member States, in order to increase the similarity of the actions of the national fiscal policies.

The evolution of the fiscal-budgetary integration process is obvious, and at this moment a higher institutional stage of it is targeted, respectively the construction of a fiscal union at EU / EMU level.

About the concepts of integration and fiscal union

The term fiscal integration came into debate either after the manifestation of financial and economic shocks / crises, or in the critical assessment of a certain failure or important stages of the European project, as well as from the perspective of a possible fiscal union at EU / EMU level.

The design and implementation of rules specific to a process of fiscal integration presupposes the pre-existence of a union, respectively of a process of integration in a general sense, with a well-defined path.

The efficiency and effectiveness of the economic integration process are influenced by the existence and stage of implementation of the fiscal and monetary integration processes, being the main policies that stimulate inter-state economic and trade exchanges. Simultaneous implementation is desirable or with fiscal priority, followed by monetary, given the EU's experience

of focusing on monetary integration and the creation of the euro area (monetary union) and the lack of a similar process of fiscal integration.

We believe that fiscal integration is an evolving process of taking over, in part or in full, elements of the national fiscal-budgetary systems of the Member States at central level and creating a new common fiscal-budgetary system / framework, accepted and adopted by all Member States, so that by its implementation and observance, it allows the central authorities to monitor, coordinate and even intervene, within the limits of their competences, on the national fiscal-budgetary processes, following the stability of public finances and their medium and long term sustainability.

The new architecture of the fiscal-budgetary system / framework created at Union level can take over from the characteristics of the national fiscal systems or can formulate its own autonomous characteristics. The process of fiscal integration, developed on the new formal architecture created and adopted by Member States through agreements, transposition into national legislation and the establishment of specific institutions at central and national level, can be considered effective (functional and closed) when formal relations are established between the Community authorities and the Member States are respected for a long period of time, when the newly established institutions fulfil their role in coordinating and monitoring fiscal-budgetary processes at national level and when generating the projected results, both at the level of each Member State as well as at Community level. Such a situation, in our opinion, is equivalent to achieving a full fiscal union.

Regarding fiscal union, the economic literature does not provide a clear definition, but debates (Marzinotto et al., 2011; Dabrowski, 2014) have resulted in a number of practical meanings of fiscal union and various proposals for possible changes in the governance architecture of EU / EMU, in which a draft fiscal union may involve the following:

- ✓ a higher degree of centralization of fiscal-budgetary resources at EU level;
- ✓ developing European sources of revenue for the EU budget (replacing Member States' contributions);
- ✓ stronger harmonization of taxation within the EU / EMU;
- ✓ a fiscal discipline mechanism both at EU and national level;
- ✓ creation of insurance mechanisms against financial turmoil, including a mechanism for debt pooling at EU level;
- ✓ creation of institutions with fiscal authority at supranational level (creation of a Ministry of Finance at EU / EMU level).

These proposals can be constituted in structural elements of a fiscal union project, on the basis of which a general definition of the fiscal union can be drawn up. Thus, a general definition of a fiscal union can be expressed as the transfer of part of the resources, competences and fiscal-budgetary management (partial sharing of the management of national fiscal-budgetary policies) from the national level to the community level.

Authors such as Fuest and Peichl (2012) distinguish five possible elements of a fiscal union:

- ✓ fiscal rules, coordination and supervision of fiscal-budgetary policies in correlation with short and medium term economic policies;
- ✓ a mechanism for preventing and mitigating shocks in the nature of economic, financial and / or health crises (e.g. the current pandemic caused by SARS - CoV-2);
- ✓ common guarantee for public debt;
- ✓ tax equalization and other mechanisms for tax transfers between countries and from the EU level to the Member States (and vice versa) through an automatic or semi-automatic mechanism;
- ✓ a larger EU budget and European taxes.

The vision of the European authorities, expressed through the EC Deepening and Authentic EMU Plan (2012) and the Report of the Five Presidents (Juncker et al. 2015), on the prospect of a fiscal union, is that of developing a fiscal capacity, autonomous for EMU, with the need for stronger

economic policy coordination, and the creation / strengthening of the fiscal stabilization function within / through the EU budget. This refers to the extent to which a national or Community authority can increase revenue from its own resources.

Measuring fiscal capacity is important from several points of view, namely:

- ✓ to address interregional disparities and implement an equalization program through fiscal transfers;
- ✓ to guide central authorities in their efforts to achieve an interregional distribution of available resources for each of the Member States / regions, depending on development needs;
- ✓ to provide information on the strengths and weaknesses of national governments by: monitoring and comparing trends and their fiscal and economic situations and forecasting the impact of structural changes in national and regional economies.

The development of fiscal capacity, in the view of the European authorities, according to the previously mentioned sources, must comply with the following guidelines: not to lead to permanent transfers between countries; not to penalize / undermine the proper elaboration and management of national fiscal policies; be implemented / developed through the EU budget and not be a crisis management tool.

We find that the term fiscal union has different meanings and interpretations, from a set of common fiscal rules (current state), to the creation of a fiscal system with federal characteristics (sharing and partial control of national fiscal-budgetary resources).

Arguments in favour of the creation of a fiscal union at EU level

A first set of arguments in favour of a fiscal union at EU level (which would involve the sharing and control of part of the national fiscal-budgetary resources and, implicitly, an instrument for their management, respectively a budget) results from the implementation of the budget (which allows surpluses and deficits, depending on the economic cycle of the Eurozone and implicitly the ability to borrow from bond markets and repayment on the basis of a common tax), respectively streamline the functions of taxation by: financing those public goods that are common to all regions (education, research, infrastructure, defence, health); transfers will be made between regions to correct geographical / historical / natural disadvantages in order to maintain economic and social cohesion; macroeconomic stabilization will be ensured, i.e. smoothing of business cycle fluctuations at regional and national level, national / local budgets being generally constrained by national rules and interests and failing to properly adjust fiscal-budgetary policies to business cycle fluctuations.

A second set of arguments refers to the possibility of streamlining and completing the steps taken so far in the process of fiscal integration (the process of creating the fiscal union). These stages, according to the opinions expressed above, which we support and complete with the process of fiscal harmonization, are: the process of fiscal harmonization; the process of fiscal coordination through fiscal-budgetary rules; a crisis management mechanism and the banking union.

The creation of the fiscal union and the implementation of a common budget, implicitly, the establishment of tax bases and common taxes, as sources of its financing, would facilitate the completion of the fiscal harmonization process, so difficult, especially in the field of direct taxation, which would mitigate and make tax competition fairer, and the mobility of tax bases will be tempered, facilitating the mitigation of large cyclical fluctuations at the level of component entities. As regards fiscal coordination and fiscal rules, they will be "absorbed" by the newly established institutions within the fiscal union, respectively by a Ministry of Finance, possibly also a Parliament approving the common budget. As regards the crisis management mechanism, this will be the main function of the common budget, taking over and streamlining the intervention mechanism now carried out through the ESM, while, the banking union will be supported in reducing market fragmentation by harmonizing the rules of the fiscal-budgetary sector, thus contributing to strengthening financial stability in the EU as a whole.

A third set of arguments concerns economic, political and administrative issues. From an economic point of view, the EU is in a certain decline, confirmed by the fact that in the early 1990s, EU states accounted for half of the top 10 most developed countries in the world, and a perspective of this statistic in 2050, indicates only two states in this top. In this global economic context, characterized by some aggression and unfair competition, a strong, united economic union can stop this decline, and the creation of a fiscal union at EU level would increase the credibility of the European market. From a political point of view, the fiscal union can be an important and real step for the political union as well, and the centralization of financial resources and debts, even partial, will be important landmarks and strong symbols for the political and democratic consolidation of the EU. From an administrative point of view, a monetary union will have great difficulty managing macroeconomic imbalances, without the help of a fiscal union, with a federal structure, which would involve supervising and controlling the collection of revenues and expenditures incurred. Without a strengthened fiscal union, the vulnerability to asymmetric shocks will be increased, thus the attempt to combine a supranational monetary policy with local fiscal policies is not successful.

Arguments against the creation of a tax union in the EU

A first set of arguments against the creation of a tax union in the EU concerns cultural and social issues. The independence of the component states, the electoral processes that incorporate specific local and national problems, needs local solutions. Monetary union is not an attractive example of effectiveness and prosperity, which amplifies certain resilience, superimposed on the cultural elements of national sovereignty. The transfer of some essential national attributes of national institutions, to a single decision-making institution for 27 states seems to be undemocratic and, above all, difficult to achieve, in that it tends to separate the notion of contributivity from that of representativeness and, more elected, decisional.

Another set of arguments against the creation of a tax union in the EU concerns issues of fiscal pressure. More specifically, the creation of a fiscal union implies the completion of the process of fiscal harmonization, both in terms of common rates and common fiscal bases, as elements of equity and contribution to the common budget. For developing Member States, which generally have tax systems with low rates of income taxation, harmonization will increase them, which is likely to have other effects on the labour market, on the migration side and capitals. On the other hand, for developed countries, which generally have tax systems characterized by high rates of income taxation, adaptability will be easier, making it possible to relax them.

Another possible unfavourable argument of the creation of a fiscal union is that of moral hazard, of the irresponsibility that the fiscal union can entail, in the sense that there are consolidated and balanced states from the fiscal-budgetary point of view, which will unify with unbalanced state from the same point of view, with the possibility of penalizing sound budgets, and states with weak budgets, becoming aware that they have a safety net, will slow down reforms, thus risking the transformation of the fiscal union into a transfer union.

Conclusions

The process of fiscal integration represented by the partial or total takeover of some elements of the national fiscal-budgetary systems of the Member States at central level and the creation of a new common fiscal-budgetary system / framework, accepted and appropriated by them, so that by implementing and respecting it, to allow central authorities to monitor, coordinate and even intervene, within their competences, on national fiscal-budgetary processes, with a view to the stability of public finances and their medium and long-term sustainability, is being implemented and has made progress in particular, on the formal side.

The concept of fiscal union is non-standard, and can exist in at least two forms: one through the prerogatives of coordinating fiscal policies from the center at national level and another that additionally involves the sharing of financial resources and, implicitly, the existence of a financial instrument - budget - and of some central institutions. At the moment, at EU level, there is the first

form of fiscal union, based on the coordination and monitoring of fiscal-budgetary policies, having as common basis a set of fiscal-budgetary regulations assumed by each Member State, by assimilation in national legislation, taking place a partial cession of fiscal sovereignty in favour of the EU, which gives a certain degree of similarity to fiscal policy actions and guidelines at national level.

A general conclusion is that favourable arguments are predominantly economic in nature and are dominant, numerically, but also in terms of anticipated benefits, over unfavourable ones, which are predominantly administrative, cultural and political. Although they are in the minority, the unfavourable arguments are the ones that pave the way for the consolidation of a fiscal union in the EU (political agreement and administrative mechanisms for taxation, collection and shared use of resources).

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WHY THE MINIMAL WAGE SHOULDN'T BE ESTABLISHED ON THE MINIMUM CONSUMPTION BASKET?

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Abstract:

The paper examines from the point of view logical and institutional (i.e. behavioural) the concept of minimal wage regarding its establishing, functioning, and impact. The key focus is the comparison of the economic basis of establishing and adjusting of the minimal wage nominal value: on the one hand, the average nominal productivity of the employees, and, on the other hand, the (average) consumption basket. Theoretical arguments will be brought in favour of the conclusion that the minimal nominal wage must be anchored on the average nominal productivity of the employees, while its establishing on the average consumption basket transforms it into a social aid (like the minimal income). Finally, some institutional and methodological suggestions are provided in order to lead to the best choice of the macroeconomic fundamentals of establishing and periodically adjusting the minimal wage.

Keywords: *minimal wage, consumption basket, income, social aid, productivity*

JEL Classification: *B41, D01, H24*

Preamble

State intervention is legitimate where and only where the private sector is unable to self-test its economic (usually, macroeconomic) variables.[7] Generally, the criterion to identify the places where the private sector is non-self-testable is the following: positive gap between the "quantity" of negative feed-backs and the "quantity" of positive feed-backs in the place concerned (I shall name that gap as *legitimizing gap of state intervention* – further LGSI). For example, regarding the monopolization phenomenon, it seems that the economic interest of parts involved leads to a negative LGSI, so the state intervention is fully legitimate there, while regarding the level of prices (including wage, which is a price, too), it seems the LGSI is positive, thus the state intervention in establishing prices for the private sector is illegitimate. In the paper will be applied this reasoning in order to examine the way in which the level (and the adjustment, as well) of the minimal wage should be anchored. Basically, there are two ways for such a regulating: a) the average productivity of labour, and the consumption basket (Cavallo, 2020). I will examine both solutions, providing economic arguments to choose between them.

Objectives of the Paper

The paper aims to get three main objectives:

- to examine whether minimal wage establishing and periodically adjusting must or must not be object of state intervention, based on the criterion of the legitimacy (Patty & Penn, 2014) of such an intervention;
- to identify the most appropriate macroeconomic anchor for (especially) periodical adjusting of the minimal wage – either the labour productivity or the consumption basket;
- to verify, with theoretical scientific argue, the hypotheses defended in the paper.

Methodology Used

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[7] The idea of legitimate (or non-legitimate) intervention of state into the private sector is held in nuce in the seminal work of Ludwig von Mises, *Human Action. A Treatise on Economics*. More developments of the idea have been done by author elsewhere, and, consequently, this concept will be not more analytically treated here.

The methodology used in the paper consists in two inter-related ways:

i. a logical examination of the process of minimal wage establishing and periodically adjusting, from the perspective of the most appropriate macroeconomic anchor, so that the economic process properly work;

ii. an theoretical assessing, from an economic point of view, of the macroeconomic anchors in competition – that is, labour productivity (Woźniak-Jęchorek & Pilc, 2020), and consumption basket, respectively –, so that the economic basic correlations be verified;

Research Organization

In this context, the research is organized in the following steps:

I. A short reminding of the concept of minimal wage (including the conceptual distinction between minimal wage and minimum wage);

II. Examining the legitimacy state intervention in the matter of minimal wage, based on concept of LGSI;

III. Comparative examination of the appropriate anchor for the minimal wage, between labour productivity and consumption basket;

IV. Final evaluations.

Minimal Wage vs. Minimum Wage

The minimal wage (MW) is that value of the wage in the economy, under which is not allowed to be paid any wage. MW is, thus, mandatorily stipulated into labour contracts (either at individual level or at branch or national one, after the case). So, the MW is an administrative wage, institutionally established, as we shall see below, in a tripartite mechanism. By the contrary, the minimum wage (mW) (*European Commission document*, 2020) is the lowest wage actually paid in the economy. The mW is, therefore, an economic wage (not an administrative one) which can coincide or not with the MW. Any case, whatever the *mW* would be, we have always the inequality: mW ≥ MW. Although the differences between *mW* and MW are many and interesting (especially from their impact on the labour market (Bonoli, 2017) functioning) such issues are not among the paper's objective, so they will not be treated further. However, the official legal norms in the matter uses, incorrectly in my opinion, the term minimum wage (Hirsch & Valadez-Martinez, 2017) instead the (correct) term minimal wage. The corresponding terms, defined and assumed by the author, will be used further in this paper.

Legitimizing Gap of State Intervention in the Minimal Wage Matter

In order to examine LGSI in the minimal wage matter, we must see how such a macroeconomic variable functions. Below I provide some considerations:

- Feed-backs are those reactions from the output of a system to its input for the next iteration. Feed-backs can be either positive (the input will be pushed in the same direction in which the output moves, that is, it is a feed-back of auto-catalysing of the statu quo) or negative (the input will be pushed in the opposite direction in which the output moves, that is, it is a feed-back of auto-stabilising of the statu quo).
- When we speak about the self-testability of the private sector (or of a given sub-system of it) we refer to the cases in which the negative feed-backs are stronger (either by their number or intensity) than the positive ones. Thus, the self-testability is provided by a net positive „quantity"[8] of feed-backs involved in the system's functioning that is by a positive LGSI.

[8] To be mentioned that a certain impulse quantity is a result of multiplying the medium intensity of that impulse with its extensive dimension (size, duration, number, and so on). A more analytical examination

- Thus, when the LGSI is positive, the state intervention is illegitimate, because the system in case can adjust itself, precisely by the negativity of the LGSI. Instead, if LGSI is negative, this means the positive feed-backs are stronger than the negative ones, so that the private sector cannot adjust itself. In such a case, the state intervention is not only permitted, but also it can be proved as mandatorily.[9]

It must be mentioned that could also exist an un-decidable situation, when the concomitantly impulses came from different points are, principled, mutually off-set. In such a situation, eventually, one of impulses involved gains an infinitesimal ascendant on the other and, thus, it leads the decision in its area of „interest". In fact, in this case, the minimal wage is assignable to such an un-decidable case. Institutionally, currently, the minimal wage (MW) is established by a tripartite procedure (see National Tripartite Council for Social Dialogue – NTCSD), so, it must be found an optimum between the interests of the parties: a) the interest of trade unions – increasing purchasing power of wages; b) the interest of employers – minimizing labour cost growth; c) the interest of the state – ensuring economic equilibrium and sustainability of economic process (Marletto, 2013). The cases of LGSI can be synthesised as in Figure 1.

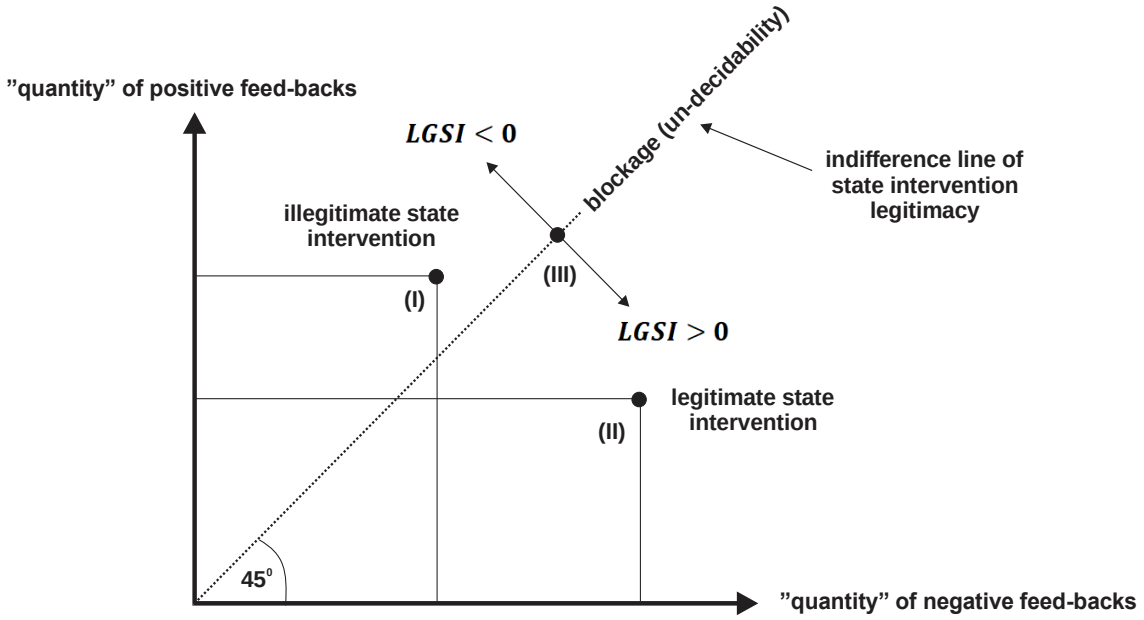

Figure 1 - The three cases to evaluate for establishing of the state intervention legitimacy

Source: Author's work

The question is: in the matter of minimal wage, what is the algebraic sign of LGSI? I shall examine this issue.

(a) The two parts, namely trade unions and employees seems to be balanced, that is, any essay of trade unions to increase the minimal wage will be off-set by the employers' essay to not increase it,[10] and vice-versa.

(b) The state itself cannot establish MW without an agreement between trade unions and employers' representatives, so a blockage between trade unions and employers become a blockage at the NTCSD level.

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could build an indifference curve between intensity and extensiveness, but such developments exceed the paper's objectives.

[9] From logical point of view, we are in the state „the state must intervene" that is more imperative than „the state can intervene". In other words, it is passed from the permission to obligation, always keeping the legitimate character of the state intervention.

[10] Of course, if a (no matter how small) un-balance between the two parts occurs, then a decision will be taken by favouring the part which gained the mentioned negotiating advantage.

(c) The issue here is whether the blockage of possibility to establish either the level or adjusting of MW, is or is not real. I affirm that, eventually, the two main parts of bargaining (trade unions, on the one hand, and employers', on the other hand), must somewhat come to an agreement, which the state, with (probably) a supplementary adjustment from its point of view (the sustainability of the economic process on long term) will take it over and will legislate it.

- *Firstly*, it seems the two main parts of bargaining are encouraged (or, likewise, have nowhere to go) to enter a collusion, that is, an understanding which leads to convergence of their common interest, which could compromise the sustainability of the economic process (the state cannot do than a very small adjustment on the agreed values of the two main parts of bargaining).
- *Secondly*, based on the previous result, it seems to arise here a positive feed-back – that is, a replication of the collusional understanding between the two main parts.
- *Thirdly*, it results that in the discussed case, MW should be established by a state intervention without the NTCSD framework, so that, the sustainability of the economic process be ensured.
- *Fourthly*, the level of MW, as well as its periodical adjustment should be performed by the state, because we are in an area of legitimate state intervention.

What Should be the Macroeconomic Anchor for MW?

Above, it has been established that, in the matter of minimal wage (MW), the state intervention is legitimate, according our criterion, i.e. according to LGSI, which is negative. But through what macroeconomic anchor would better be bound the level and the adjusting of MW? In theory and, particularly, in practice there are two such anchors which "compete" for the role of macroeconomic anchor for MW: a) the consumption basket; b) the labour productivity. I will examine the pros and cons arguments for each of them below.

(a) The consumption basket

The consumption basket refers to the monetary amount that is necessary to acquire the goods and services aimed at to satisfy the basic needs of life. This amount is established, by entitled public institutions, based on scientific methods, as well as empirical studies (for example, surveys of different kind). Based on consumption basket (further, CB), MW can be inferred in two main ways: a.1) applying a coefficient of multiplication on CB; a.2) ensuring only the purchasing power of the previous MW by deflating it with inflation.[11]

(a.1) the coefficient of multiplication is aimed at to add to the amount regarding the basic needs of life, other amounts addressing other human (individually or at family level) needs: education, health, culture, and so on. Here some questions arise: 1) the supplementary needs of human beings do not increase linearly with the basic life needs,[12] so a unique coefficient applied to *CB* could introduce serious constraints regarding the normal development of involved individuals (or their family); 2) in fact, there is a very poor connection between the basic life needs and the needs located above them on Maslow's pyramid, thus this method seems be very vulnerable from the point of view of social justice (Rawls, 1999);

(a.2) ensuring only the purchasing power of MW, by intermediation of adjusting (directly proportional) the previous level with inflation leads, of course, to a situation of blocking the standard of life. More precise, the standard of life will be at most kept (although, this maintaining operates to the level of standard of life only, but not to its structure, which is very important and significant from the perspective of individual perception).

So, it seems the CB anchor has serious deficiencies from the perspective of both economic justification and social justice reasons. Moreover, this anchor seems to be of social aid nature, because is not connected at all to the economic product of the society (for example, GDP), that is,

[11] Either CPI or HICP (not CORE 1 or CORE 2 or CORE 2 adjusted).

[12] In fact, here act Engel's "laws", which stipulate that the basic needs (associated with the staple goods and services) increase decreasingly and, ultimately, are capped towards an asymptote), while other needs (associated with the so-called luxury goods and services) increase increasingly.

it is not grounded on the society possibilities to provide a given (or desirable) standard of life or, more than that, a given (or desirable) quality of life. Although there is a ”natural” ground for the human being needs, eventually, those needs must be covered by the society resources, so the ”natural” features of the basic needs are, to a great extent, adjusted with the actual society state.

(b) The labour productivity

The labour productivity anchor refers to the monetary amount which is due to employee (or to any person which work for another based on a contract) according to the monetary value of the marginal labour productivity. This dependence is inferred under the condition of maximizing the profit of employer (Nota bene: the wage is included to the cost with labour force). Establishing the level (or the degree of periodical adjustment) of MW based on labour productivity (our proposal is to take into consideration the average labour productivity of employees at national level) has certain trumps as following:

- *Firstly*, since the labour productivity (World Bank, 2020) is, probably, the most important ”channel” to obtain GDP, it results that the directly proportionality of varying MW with the labour productivity is sustainable.
- *Secondly*, since the labour productivity is considered in its nominal monetary value, it results the impact of inflation on decreasing the purchasing power of MW is totally off-set, by this anchoring.
- *Thirdly*, it is avoid the approximation implied by the calculus of *CB*, implicitly accepting the society economic possibility is a function of its labour productivity. Thus, again, we obtain the sustainability of varying MW when it is driven by the labour productivity.

Of course, the analytical methodology which should be applied when the MW increasing will be correlated with labour productivity increasing is a problem per se, but the paper is not concerned here with such a question,[13] because it is not an objective of the study. One of the most significant feature of labour productivity as macroeconomic anchor for MW periodical adjustment consists in its autonomy from the political factor. Indeed, establishing the labour productivity with such a role, MW will be automatically adjusted, on an objective and sustainable economic basis. In fact, such a choice for the anchor simply introduces in the economic process and mechanism an automatic device regarding the MW adjustment.

Thus, in my opinion the best, useful and justified macroeconomic anchor for MW periodical adjustment is the average labour productivity of employees at national level.

Other Comments

As said before, the minimum wage (Clemens, 2019) at the national economy level must be feasible - that is, it must be firstly produced to be then paid. Anchoring the minimum wage (and the salary policy, as it is now intended in Romanian Parliament) on the minimum consumption basket for a decent living,[14] means to mix the economic principles with the social ones. From the perspective of social justice, of course, like author of this paper, I agree with the other scientists who have an opinion in this matter, but, eventually, the social justice principles (Jordan, 2005) must be covered by the society’s economic possibility (even in the long term).

Obviously, the value (and structure as well) of the minimum consumption basket for a decent living must be established from based on family structure, sociological, and psychological considerations, as well as taking into consideration historical, cultural, and regional factors which define, ultimately, what means a decent living. This consumption basket (as mandatorily expenditures – both monetary and non-monetary, including the self-consumption) must be ensured by a set of public policies which combines the economic public policies with the social ones (Sperling, 2020), central public policies with the local ones. In my opinion, this issue is very

[13] Author published elsewhere a complete methodology in this matter.

[14] This is the new denomination of the former consumption monthly basket.

important in a free and democratic society. But this determination should not be linked to the minimal wage and the salary public policy. Such a causal connection would have at least the following negative effects (some of them being of adverse[15] nature):

- it will transform the wage (or, generally, the salary) into a social aid, at least regarding the difference between the wage deserved according to the marginal labour productivity and the wage paid according to the consumption basket;
- the problem is, of course, that the social aid is paid, in turn, also through the economic substance (that is, PIB) which is, in fact, the result of labour productivity;
- anchoring the minimal wage to the consumption basket could, with a great probability, to discouraging of the able-bodied family's members from searching a job, which necessarily creates a vicious circle on the labour market, by introducing some elements of economic non-sustainability on medium and, especially, on long term;[16]
- based on the previous mentioned, there is a great probability to generate, at the national economy level, a state of moral hazard, which is not compatible at all with a free market economy and with a democratic society.

A synoptical view of the two anchors for the minimal wage (consumption basket of a decent living, and average labour productivity at national level) is provided by Figure 2 (MW means minimal wage; CB means consumption basket; LP means labour productivity).

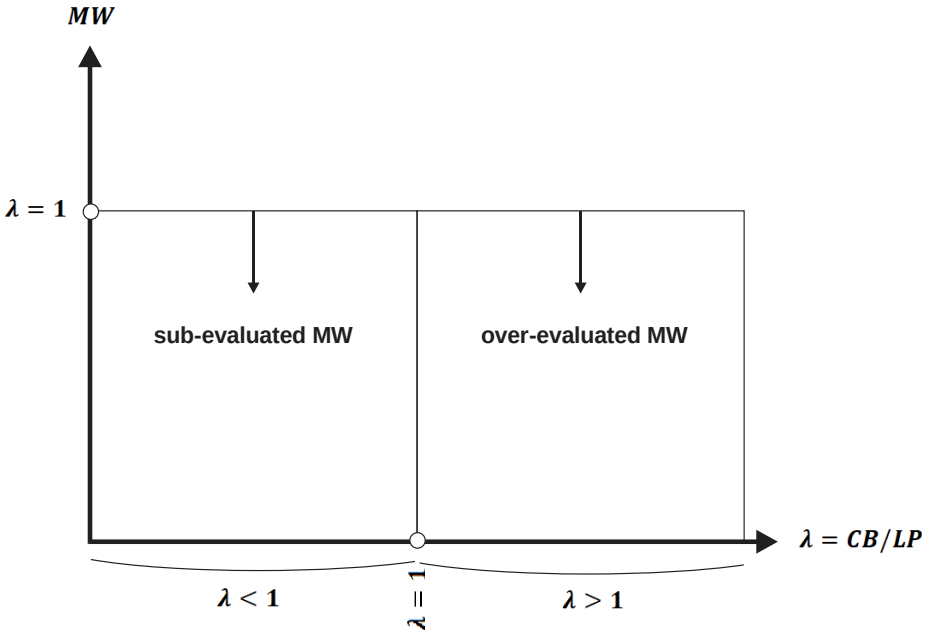

Figure 2 - Anchoring of the minimal wage to the two anchors

Source: author's work

A question that cannot be avoid (according to Figure 1 and to discussion around it) is whether anchoring the minimal wage (either as level or only as dynamics) to consumption basket (also either as level or only as dynamics) is a state intervention in its legitimate area in a free market economy and democratic society (Lipset, 1959). I put into discussion the following ideas:

- on the one hand, the consumption basket is a non-self-testable economic (or social) variable. This means that external resources must be provided to individuals (or families, after the case) in order to ensure the minimum consumption according to a decent living standard. Consequently, *the state intervention is*, in such area of societal life, *mandatory and legitimate*;

[15] Adverse effects mean those effects which are undesirable although, in some extent, they are predictable (as are those mentioned here).

[16] In fact, from conceptual point of view, we have to do here with a sort of "inequality between needs and possibilities". Methodologically, such an inequality could be treated similarly with the economic inequality which generates the society polarization from economic point of view.

- on the other hand, the wage (as free economic variable, that is, as market variable) is self-testable – employer and employee, either at individual level or at trade unions level – a establish, by their own criteria, the level of wage, usually based on the marginal labour productivity. Being self-testable, *the wage establishing by the state is a i-legitimate intervention*;
- however, the minimal wage is an economic variable which is not of a free market nature. Its level is rather anchored to the social justice principles, so it could be, in fact, non-self-testable as such by market free functioning. It seems, thus, *the state intervention in establishing the level* (including the criterion of establishing such a level or the periodical change of it) *of minimal wage at the national economy level is legitimate*;
- nonetheless, *although both the consumption basket and the minimal wage are placed in the area of legitimate state intervention, remains an element of non-miscibility of them: while the consumption basket is of social nature, the minimal wage is of an economic nature*;
- taking into account such a non-miscibility, we come, again, to the conclusion that the minimal wage (as legitimate result of state intervention) should be anchored to the labour productivity, not to the consumption basket.

Results and Conclusion

In the first part of the paper we has defined the concepts we used in formulating the arguments in this paper. In further I has affirm that the state intervention is legitimate in the case where the private sector is unable to self-test its economic variables. As we have shown in this paper the criterion to identify that places where the private sector is non-self-testable, it refers to the positive gap between the ”quantity” of negative feed-backs and the ”quantity” of positive feed-backs in the place concerned, and it is called the *legitimizing gap of state intervention* (LGSI).

It was been identified the three cases to evaluate for establishing of the state intervention legitimacy. The two anchors which ”compete” for the role of macroeconomic anchor for MW, the consumption basket and the labour productivity has been examined with the pros and cons arguments for each of them.

It was formulated the reasons of anchoring the minimal wage on the minimum consumption basket for a decent living, and we conclude that means to mix the economic principles with the social ones because the consumption basket is of social nature and the minimal wage is of an economic nature.

In the paper, it was clearly formulated opinions about the legitim state intervention in the field of anchoring the minimal wage in the consumption basket, in a free market and a democratic society.

Future Directions

The minimum wage (Dube, 2019) has an important role to play in the current period, of the coronavirus pandemic, a period of slowdown in economic growth. Establishing adequate minimal wages, in accordance with principle 6 of the European Pillar of Social Rights, is very important both for the immediate period, and for the perspective of the next period, of sustainable recovery of world economies. Future research directions will continue to consider studying the legitimacy of state intervention in the issue of the minimal wage.

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PRINCIPLES OF SOCIAL JUSTICE IN ROMANIAN CONSTITUTION

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Abstract:

Economics (and the public policies, as well) are today seriously preoccupied by the fairness of organizing and functioning of the society, so the morality of social cooperation becoming more and more increasing. In a word, the economic theory seems to join to the commandments of the social justice principles and institutions. In such a context, the paper perform a logical and institutional analysis of the Romanian Constitution in order to identify, classify, and assess the main constitutional clauses belonging to the social justice area. Such an analysis is not done by now, at least from the economic perspective, and the value added of the paper could be both of conceptual, institutional (i.e. political), and practical (i.e. regarding the just social cooperation). The basic conclusions could ground future revisions of Romanian Constitution so the Romanian society becoming more and more a fair one.

Keywords: social justice, Constitution, fairness, social cooperation, morality

JEL Classification**:** B41, C02, H41

Preamble

The social justice is increasingly entering the public debates regarding the quality of life, the free society, and the democratic functioning of such a society. While economists are focused especially on the economic inequality (Collins, 2019) measured as distribution (and, finally, as level) of income or wealth, the policy makers should pay also more attention to issues of normative (primarily, constitutional) provisions aimed at to ensure avoiding of (or, at least, reducing of) such an economic inequality. In other words, while the economists are preponderantly looking at the final result, or to the state-vector of economic inequality, the policy makers (but also, the sociologists, philosophers and others of the same) must be interested by the mechanisms (processes) which lead to that final state. Or, equally, they must examine the structural (i.e., normative) causes which are likely to move the society towards one or other of the economic inequality states.

The author of this paper thinks that the basic structure of a society is, in its very ground, stipulated into Constitution. In fact, I believe that the Constitution is basically, a set of axioms (or constitutional principles) from which are derived, within a democratic mechanisms, the „theorems", that is, the primary, secondary, and tertiary legislation that drive the forming of the final state of the distribution and holding of economic product.

In fact, the elaboration of the Constitution, being the second stage of building up the basic structure of the society (after the social contract being „signed") confers either a procedural character or a outcome-based one to the social justice (Barry, 2015) functioning.

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Objectives of the Paper

The paper aims to get four main objectives:

- whether Romanian Constitution contains a procedural social justice or an outcome-based one (or a mix of the two);
- whether Romanian Constitution accounts on the human being capabilities;
- whether Romanian Constitution contains clauses regarding the social justice extending beyond the human beings (towards non-human animals or to international relationships);
- whether Romanian Constitution is focused (and in which degree) on the social capital of society.

Methodology Used

The methodology used in the paper consists in two inter-related ways:

i. a logical examination of the constitutional clauses in force of the Romanian Constitution, based on which the conclusions regarding the potential of these clauses to provide (or „deliver") the social justice is extracted and interpreted;

ii. an institutional assessing of the constitutional provisions regarding social justice, on which the conclusions on the feasibility of those provisions in the social practice.

Research Organization

In this context, the research is organized in the following steps:

a. scrutinizing of the Romanian Constitution, in searching all the clauses regarding the social justice;
   - *expected result*: the list of clauses in force (constitutional „axioms") aimed at to regulate the social justice objectifying and functioning;

b. identifying and applying of a criterion to distinguish between procedural social justice and outcome-oriented one, as such a mark can be extracted from the constitutional clauses;
   - *expected result*: the institutional qualifying of the type of social justice in Romania, as it is designed into Constitution;

c. identifying and interpreting of the capabilities of human being (individuals, citizens) which, either explicitly or implicitly, Romanian Constitution stipulates as mandatorily be publicly provided;
   - *expected result*: additionally characterization of the social justice type that is working in Romania;

d. identifying and evaluating the constitutional provisions on the social justice in its extension towards non-human animals or towards the international (or global, if the case) social justice;
   - *expected result*: to get an image on the sphere of social justice as it is embedded by the constitutional provisions in force;

e. identifying and assessing the species of social capital which are nominalized or presumed (after the case) in the constitutional text;

- *expected result*: an evaluation of the degree (and quality) in which Romanian Constitution has in its attention the social capital as „vehicle" to deliver the social welfare (Dean, 2020) as well as the individual wellbeing (Cloninger, 2008).

The five results expected to be got by the research have the potential to reach the four main objectives assumed. In addition, they could open new directions for further research in the field of social justice (or, narrower, economic justice).

Clauses Regarding Social Justice in Romanian Constitution

By scrutinizing Romanian Constitution, the following clauses regarding social justice have been identified (Table 1).

Table 1

Collecting the Social Justice Clauses in Romanian Constitution

Title	Art.	Clause	Code
General principles	1(3)	Romania is a state governed by the rule of law, democratic and social, in which human dignity, the rights and freedoms of citizens, the free development of the human personality, justice and political pluralism are supreme values…	C1
	4(2)	Romania is the common and indivisible homeland of all its citizens, regardless of race, nationality, ethnic origin, language, religion, sex, opinion, political affiliation, wealth or social origin	C2
Fundamental rights, liberties, and duties	16(1)	Citizens are equal before the law and public authorities, without privileges and without discrimination	C3
	16(2)	No one is above the law.	C4
	16(3)	Romanian state guarantees equal opportunities between women and men…	C5
	20(1)	The constitutional provisions on the rights and freedoms of citizens shall be interpreted and applied in accordance with the Universal Declaration of Human Rights, the Covenants and the other treaties to which Romania is part	C6
	22(1)	The right to life, as well as the right to physical and mental integrity of the person are guaranteed	C7
	23(1)	Individual freedom and security of the person are inviolable	C8
	25(1)	The right to free movement is guaranteed	C9
	25(2)	Every citizen is guaranteed the right to establish his domicile or residence in any locality in the country, to emigrate, as well as to return to the country	C10
	26(1)	Public authorities respect and protect intimate, family and private life	C11
	26(2)	The natural person has the right to dispose of himself, if s/he does not violate the rights and freedoms of others, public order or morals	C12
	29(1)	Freedom of thought and opinion, as well as freedom of religious faiths, cannot be restricted in any way. No one can be compelled to adopt an opinion or adhere to a religious faith contrary to his convictions	C13
	29(2)	Freedom of conscience is guaranteed; it must be manifested in a spirit of tolerance and mutual respect	C14
	29(6)	Parents or guardians have the right to ensure, according to their own beliefs, the education of minor children for whom they are responsible	C15
	30(1)	Freedom of expression of thoughts, opinions or beliefs and freedom of creation of any kind, by word of mouth, writing, images, sounds or other means of communication in public, are inviolable	C16
	30(6)	Freedom of expression cannot prejudice the dignity, honour, private life of the person or the right to one's own image	C17
	31(1)	The right of the person to have access to any information of public interest cannot be restricted	C18
	32(1)	The right to education is ensured through compulsory general education, through high school and vocational education, through higher education, as well as through other forms of instruction and improvement	C19
	32(3)	The right of persons belonging to national minorities to learn their mother tongue and the right to be trained in that language are guaranteed; the modalities of exercising these rights are established by law	C20
	32(4)	State education is free, according to the law. The state grants social scholarships to children and young people from disadvantaged and institutionalized families, in accordance with the law	C21
	32(7)	The state ensures the freedom of religious education, according to the specific requirements of each cult. In state schools, religious education is organized and guaranteed by law	C22
	33(1)	Access to culture is guaranteed, in accordance with the law	C23
	33(2)	The freedom of the person to develop his spirituality and to access the values of national	C24

		and universal culture cannot be restricted	
	34(1)	The right to health care is guaranteed	C25
	35(1)	The state recognizes the right of every person to a healthy and ecologically balanced environment	C26
	36(1)	Citizens have the right to vote from the age of 18, fulfilled until election day inclusive	C27
	36(2)	The mentally weak or alienated, placed under interdiction, and the persons condemned, by final court decision, to the loss of electoral rights do not have the right to vote	C28
	39	Rallies, demonstrations, processions or any other gatherings are free and can be organized and conducted only peacefully, without any weapons	C29
	40(1)	Citizens can freely associate in political parties, trade unions, employers' associations and other forms of association	C30
	41(1)	The right to work cannot be restricted. The choice of profession, trade or occupation, as well as the job is free	C31
	41(3)	At equal work, women have equal pay for men	C32
	41(5)	The right to collective bargaining in labour matters and the binding nature of collective agreements are guaranteed	C33
	43(1)	Employees have the right to strike to defend their professional, economic and social interests	C34
	44(1)	The property right, as well as the claims on the state, are guaranteed	C35
	44(2)	Private property is equally guaranteed and protected by law, regardless of the owner	C36
	45	The free access of the person to an economic activity, free initiative and their exercise under the law are guaranteed	C37
	46	The right to inheritance is guaranteed	C38
	47(1)	The state is obliged to take measures for economic development and social protection, in order to ensure a decent standard of living for its citizens	C39
	47(2)	Citizens have the right to a pension, to paid maternity leave, to medical assistance in state health units, to unemployment benefits and to other forms of public or private social insurance, provided by law. Citizens also have the right to social assistance measures, according to the law	C40
	48(1)	The family is based on the freely consented marriage between the spouses, on their equality and on the right and duty of the parents to ensure the upbringing, education and training of the children	C41
	48(3)	Children out of wedlock are equal before the law with those in marriage	C42
	49(1)	Children and young people enjoy a special regime of protection and assistance in the realization of their rights	C43
	49(2)	The state provides allowances for children and aid for the care of sick or disabled children. Other forms of social protection of children and young people are established by law	C44
	49(3)	The exploitation of minors, their use in activities that would harm their health, morals or that would endanger their lives or normal development are prohibited	C45
	49(5)	The public authorities have the obligation to contribute to ensuring the conditions for the free participation of young people in the political, social, economic, cultural and sports life of the country	C46
	50	People with disabilities enjoy special protection. The state ensures the implementation of a national policy of equal opportunities, prevention and treatment of disability, in order to effectively involve persons with disabilities in community life, respecting the rights and duties of parents and guardians	C47
	51(1)	Citizens have the right to address public authorities through petitions made only on behalf of the signatories	C48
	52(1)	The person injured in a right or in a legitimate interest, by a public authority, by an administrative act or by not resolving a request within the legal term, is entitled to obtain the recognition of the claimed right or legitimate interest, annulment of the act and damage repair	C49
	53(1)	The exercise of certain rights or freedoms may be restricted only by law	C50
	53(2)	Restriction can only be ordered if it is necessary in a democratic society. The measure must be proportionate to the situation which gave rise to it, be applied in a non-discriminatory manner and without prejudice to the existence of a right or freedom.	C51
	57	Romanian citizens, foreign citizens and stateless persons must exercise their constitutional rights and freedoms in good faith, without violating the rights and freedoms of others	C52

Source: Romanian Constitution (author's processing).

Core Analysis

1. *Regarding objective 1: what kind of social justice provides Romanian Constitution?*

Social justice can be, principled, of two basic kinds: a) procedural social justice; b) outcome-based social justice.

(a) Procedural social justice (PSJ)[17] implies to establish the basic principles agreed by the participants parts when have „signed" the social contract (*Dent,* 2008), so that they certainly and always "deliver" as fair results as those basic principles are in turn.[18] Although PSJ is not factually testable, it can be tested, instead, in a confirmabilism form, if such a testing is autonomously put in place.

(b) Outcome-based social justice (OSJ)[19] implies to provide a list of final results which social justice applying must achieve. OSJ is assessed as fair (or not) to the extent in which the results of its applying are fair (or not). OSJ is, so, factually testable, although not in a very known factually way, but rather by natural experiments.[20]

PSJ is „announced" by the primary goods providing or distribution, because their possession are aimed to ensure the getting of secondary or tertiary goods. In fact, according to the pervasive acceptation of the social justice (Rawls, 1999), there are two fundamental primary goods: 1) equal liberties provided to individuals; 2) equal access of individuals to social opportunities (positions and benefits) offered by the social cooperation guaranteed by social contract (Gibbons, 1999). On these bases, we will examine the provisions collected in Table 1, in order to identify those clauses claiming the primary goods distribution in Romanian society. The results of this scrutinizing are as follows (Table 2).

Table 2

Selected Clauses in Romanian Constitution Focused on the Social Justice Type

PSJ		OSJ	
Regarding equal liberties spreading	**Regarding equal opportunities availability**	**Regarding outcome naming**	**Regarding outcome guaranteeing**
C12	C2	C8	C7
C17	C5	C30	C10
C52	C19	C31	C14
-	C25	C35	C36
-	C32	-	C37

Source: Romanian Constitution, Table 1 (author's processing).

Main findings regarding the first objective of research are the following:

- The numbers of clauses aimed at to regulate the two types of social justice are almost equal: eight clauses for PSJ, and nine clauses for OSJ. This means that Romanian Constitution (*The Constitution of Romania*, 1991) provide principles ("axioms") equally for both those types;
- Within PSJ, more clauses are stipulated about an equal access to social opportunities (five) than clauses stipulated about an equal spreading (distribution) of liberties at individual level (three). This means that Romanian Constitution is concerned more about the actual functioning of the freedom into society than its nominal allowing;

[17] The most known exponent of the procedural social justice is John Rawls with his *A Theory of Justice* (The Belknap Press of Harvard University Press, 1999).

[18] To be observed that this kind of social justice does not allow a direct factual testing (for example in a Popper-ian way).

[19] The most known exponent of the outcome-based social justice is Martha Nussbaum, with her *Frontiers of Justice* (The Belknap Press of Harvard University Press, 2006).

[20] A natural experiments consists in observing, based on a program of such observation, a given phenomenon or event in its genuine development (not in a dedicated organized experiment).

- Within OSJ, the guaranteeing of social justice outcomes is contained into five clauses, while nominal providing of those outcomes is contained into four clauses, which means that a more importance is given by Constitution for guaranteeing than for naming the concrete cases of ensuring the outcomes of social justice.

2. *Regarding objective 2: Is social justice in Romania referring to capabilities?*

Generally, by capabilities, in the sense of social justice, are understood those results which individuals' life reaches within the society, so that they can compose the bases of their plenary human life, with both worth and dignity. In specialty literature (Nussbaum, 2006), are held ten such results that are named capabilities, as follows: 1) life; 2) bodily health; 3) bodily integrity; 4) sense, imagination, and thought; 5) emotions; 6) practical reason; 7) affiliation; 8) other species; 9) play; 10) control over environment (political and material).

Based on such a list of capabilities, from Romanian Constitution can be extracted the following clauses involved by those items (Table 3).

Table 3

Selected Clauses in Romanian Constitution Focused on the Social Justice Type

	Focused on PSJ	Focused on OSJ
Life	C7; C11	-
Bodily health	C25	C26
Bodily integrity	-	C8
Sense, imagination, and thought	C18; C19; C21; C23	C14
Emotions	C16	-
Practical reason	C13	-
Affiliation	C20; C32; C33; C34	C27; C29; C30
Other species	-	-
Play	-	-
Control over environment	-	-
-Political	-	-
-Material	-	C10

Source: Romanian Constitution, Table 1 (author's processing).

Main findings regarding the second objective of research are the following:

- The constitutional clauses focused on the procedural social justice are twice more numerous than those regarding the outcome-based social justice, which means Romanian Constitution is rather a procedural one;
- Regarding the PSJ, the most constitutional clauses address two capabilities of individuals (four for each of them): a) sense, imagination, and thought; b) affiliation;
- Regarding the OSJ, the most constitutional clauses address the affiliation;
- In total, the most addressed capability is the affiliation;
- There are three capabilities which are at all addressed: a) other species; b) play; c) control over environment. Although, in last instance, C42 and C43 could be counted as addressing, somewhat tangential the capability of play. Likewise, the material dimension of the capability called material control over the environment seems be addressed by C10.

3. *Regarding objective 3: Is social justice in Romania extended beyond humans?*

In specialty literature, there are held three "worlds" outside and beyond human beings which could (or, often, should) be subject of social justice: a) non-human animals[21]; b) other living species; c) international political environment (Nussbaum, 2006).

Table 4 collects the clauses regarding the three areas, as they are mentioned in Romanian Constitution.

Table 4

Selected clauses in Romanian Constitution focused on the social justice type

Non-human animals	Other living species	International Political Environment
-	-	C2
-	-	C6
-	-	C10
-	-	C20
-	-	C52

Source: Romanian Constitution, Table 1 (author's processing).

Main findings regarding the third objective of research are the following:

- In Romanian Constitution no clause addresses the non-human animals or other living species;
- Regarding the International political environment, five specific clauses were been identified, which means Constitution put the basic principles in order to build and configure Romanian international relationships.

4. *Regarding objective 4: Is social justice in Romania related to social capital?*

In my opinion, social justice implementing (objectifying) is strongly conditioned by its relationship with social capital (Putnam, 2004) . Generally, by social capital is understood that axiological features (either formal or informal) of social cooperation that ensure, both at individual level and of societal one, a plenary functioning of life.[22] There are six types of social capital, grouped in two classes, as following:

a. Based on socialization criterion (**IS**), that is: the process of insertion of the individuals into the society (i.e., of building of the society by the individuals):[23]
   - (**C**) communication: the degree and the quality in which the individuals can freely communicate, live, and work with other individuals; this type of social capital is especially „responsible" for the communitization process (building up of such communities as: families, teams, clubs, organizations, countries, integrated regions, all types of social networks etc.);
   - (**P**) participation[24]: the degree and the quality in which the individuals have the possibility to participate to the public decision making[25]; this type of social capital is especially "responsible" for building up the political[26] structure of the society;

[21] Humans are considered a "functional" mix between animality and consciousness.

[22] A macro-measure of such a plenary life functioning is the social welfare (see the study *Social justice – a vehicle of social welfare*, in processing for Institute of Research of Quality of Life (RIQL), Romanian Academy, authors: Emil Dinga and Gabriela-Mariana Ionescu).

[23] See the study *Social justice – a vehicle of social welfare*, above mentioned.

[24] Notions as engagement or implication can be considered as equivalent.

[25] This includes the formal construction of institutions themselves that follow to host the participation of the individuals.

[26] Here the notion of political has the widest possible signification.

- (**M**) mutualisation: the degree and the quality in which common goals and common means can be built from the inter-individual harmonization or competition[27]; this type of social capital is ”responsible” for all contractual[28] associations among individuals (including the nation, or the state) (Rousseau, 2014).

b. Based on individualization criterion (**SI**), that is: the process of autonomization of the individual inside the society (i.e., of building of the individuals by the society):
   - (**F**) freedom: the degree in which the individuals can use their own free will[29];
   - (**T**) trust: the degree in which the individuals freely agree to pass some of their rights or interests to the state (the Government);
   - (**S**) symmetry[30]: the degree in which the individuals have the same access to the societal positive externalities (education, justice, health, other public goods or chances).

Table 5 synthesises the clauses in Romanian Constitution that are referring to the social capital as described above.

Table 5

Selected Clauses in Romanian Constitution Focused on the Social Justice Type

IS			**SI**		
C	**P**	**M**	**F**	**T**	**S**
C13	C5	C3	C1	C11	C4
C14	C9	C33	C8	C35	C12
C16	C23	C38	C37	C38	C17
C18	C27	C40	-	C41	C32
C48	C29	C44	-	C47	C36
	C30	-	-	C49	C42
-	C46	-	-	C52	C43

Source: Romanian Constitution, Table 1 (author's processing).

Main findings regarding the third objective of research are the following:

- All the categories of social capital are addressed by the Constitutional clauses;
- Regarding the social capital of socialization, the most represented is *participation*, with seven clauses, followed by communication, and mutualisation, with five clauses each;
- Regarding the social capital of individualization, *trust* and *symmetry* are focused with seven clauses each, while freedom is addressed by three clauses:
- In fact, the two classes of social capital (of socialization, and of individualization, respectively) are equally addressed in Romanian Constitution, namely by 17 clauses each, which means Constitution gives the same attention for each of these classes of social capital.

[27] See here also the concepts of *bonding social capital* (for homogenous individuals), or of *bridging social capital* (for heterogeneous individuals), introduced by **Robert D. Putnam**.

[28] Generally, by contract must be understood simply a free agreement, without any compulsory written or other persistent prove (for example, the J.J. **Rousseau**-ian social contract).

[29] Shortly, the free will signifies the possibility, capacity and willingness of the individuals to oppose or reject external decisions or acts (more precisely, to forbear or refuse them).

[30] Probably, a more appropriate denomination for this concept could be homogeneity.

Results and Conclusions

The paper, on the base on a logical examination, identified the main clauses in force in the Romanian Constitution and argued their potential to offer the individual the two types of social justice, social procedural justice (PSJ) and social justice based on results (RSJ).

We concluded that the number of clauses aimed at regulating the two types of social justice, as they were defined and explained in this paper are almost equal in number in the Romanian Constitution and provides equal principles for both types of social justice.

In terms of capabilities, the clauses in the Romanian Constitution focused on procedural social justice are twice as numerous as those on results-based social justice, which leads to the conclusion that the Romanian Constitution, as I have argued, is rather a procedural one.

Referring to the three worlds outside and beyond human beings that could be the object of social justice, the paper concluded that in the Romanian Constitution no clause refers to non-human beings but there are, stipulated in clauses, the basic principles for building and configuring Romanian international relations.

In conclusion, it was shown that all categories of social capital are addressed through constitutional clauses.

The author considers that, in the current stage of the research, the main objectives established in the paper have been achieved.

Further Research Suggestions

It can be appreciated that on this research segment of social justice there can be at least three future directions of research that the author proposes. The first direction of research could be to examine other European constitutions, but the research could be extended to the Constitution of the United States of America. The second direction of research could materialize in the elaboration of a study on the project, for the time being, abandoned, of the elaboration of a European Constitution. The third direction of research could be materialized by elaborating proposals to modify the Romanian Constitution, from the perspective of social justice, taking into account the conclusions of this paper. In fact, this paper aimed at the more prominent and analytical representation of social justice, both procedural social justice and outcome-based social justice, in the Romanian Constitution (Comparative Constitutions Project, 2016). The paper argues that the application of social justice measures ensures the social sustainability of society which is the basis of economic sustainability and not the other way around, as will be argued in future papers to be developed on this research segment of social justice.

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THE TAXES' IMPACT ON THE ENTREPRENEURIAL ACTIVITY DEVELOPMENT

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Abstract:

The role of taxes is indispensable for the all countries' economy development, taxes having multiple positive and negative effects on micro and macro economic indicators. The level of countries' economic development depends a lot of the business environment development, and, in the end, depends a lot of the different taxes level. The purpose of this article is to conduct extensive research based on the comparative analysis of the taxes level specific of entrepreneurial activity, applied in the Republic of Moldova and the similar experience in different countries of the world. For further research, there is planned the application of the correlational analysis by determining the mathematical model that expresses the influence of the taxes level on the level of the state's development, being argued proposals to improve the situation.

Keywords: *Taxes, entrepreneurial activity, development.*

JEL classification: *H2, H21, H25*

Introduction

The economic development of any country depends indispensable on the business environment and the level of development of entrepreneurship in those countries. In this context, more and more attention is being paid to business development, especially in the field of small business. If things are better in developed countries, such as most European Union member states, in developing countries are being implemented various programs to stimulate the development of entrepreneurship. An important role in supporting the development of the business environment is given to the research of the main problems faced by existing entrepreneurs and the problems that prevent the launch of business among potential entrepreneurs.

If we address the issue of taxes globally, there is a high level of variation in taxes, from zero to the highest levels. In this context, it is of particular interest to establish the link between the level of development of the country and the level of taxes and fees related to the business environment applied in these countries. At the same time, some taxes, such as, for example, the level of social insurance contributions vary essentially from one country to another as a level and as a distribution of the share established for the employer and for the employee. In this context, some countries impose the burden of the social insurance contributions mainly on the employer, which often stimulates the development of the shadow economy and „wages in the envelope". On the other hand, there are countries that attribute the social insurance contributions in full or largely to the employee, so that the real purchasing power of the salary is diminished considerably.

In this research, special attention is put to studying the approaches of different scientists and specialists in the field, in terms of the optimal level of taxes and fees to ensure the most favorable level of economic development of entrepreneurship and economic development of the country.

As research methods, there are applied statistical methods of descriptive analysis with an emphasis on the application of variation indicators and on the study of deviations from the standard normal distribution. At the same time, there are applied statistical methods of inductive research, which involve a selective research by sampling.

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In the context of the ideas presented above, this article is oriented towards the comparative analysis of the taxes' level and towards the research of the main related issues. Based on the obtained results, there are formulated scientifically substantiated measures in order to establish the optimal level of taxes that will be able to stimulate the entrepreneurship development, ensure a competitive level of income for the population and ensure the necessary level of revenue in the state budget.

Description of the Problem

One of the main problems that is quite frequently raised by entrepreneurs operating in developing countries, especially in cross-border areas, is the issue of high levels of taxes. In the Republic of Moldova, a good part of the entrepreneurs attest that a correct activity by respecting and paying in full the related taxes and fees makes their activity unprofitable, so some entrepreneurs prefer to avoid paying some taxes.

Studies conducted among young people also show a highlight of the problem of high taxes, which prevent the launch of new businesses. In order to improve the youth entrepreneurship environment in the framework of the HEIFYE project in the Republic of Moldova, 422 youth respondents filled out a youth entrepreneurship survey. One of the survey directions was to evaluate the above factors in terms of their importance in order to encourage young people to start a business or help develop an existing business (Turcan Iu. & Turcan R., 2020, p.108).

Table 1

Evaluation of financial factors in terms of the impact on youth entrepreneurship in the Republic of Moldova

Nr.	Factors	Points
1.	Accessibility of financing in general for starting a business	3,44
2.	Accessibility of financing of European and other funds	3,31
3.	Investor Finance (Business Angels)	3,22
4.	Personal savings	3,21
5.	Accessibility of state and regional funding programs	3,21
6.	Tax rebates	3,16
7.	Bank financing	3,05
8.	Attraction and use of collective financing	2,96
9.	Financial assistance from friends and family	2,89
10.	Financing Venture Funds	2,68

Source: Presentation of research results "Youth Survey" - Higher educational institutions for youth entrepreneurship, HEIFYE Project, Co-funded by the Erasmus+ Programme of the European Union, 2018, http://heifye.hduht.edu.ua/index.php/en

The survey's results show that young entrepreneurs consider that the impact of taxes is considerable on the development of entrepreneurship, it is rated 3.16 points and occupies the sixth position in the rating financial factors in terms of impact on youth entrepreneurship in the Republic of Moldova.

In the context of the above, there is raised the issue of comparative research on the level of taxes and contributions applied in various countries of the world, with priority given to the situation in the Republic of Moldova and in the European Union countries. Thus, there are researched the justifying arguments that will confirm how strongly the level of taxes influences the level of economic development of the country and the main factors that support the development of entrepreneurship even in the conditions of high taxes and fees.

Methodology and Results

The multiple approaches of the tax systems specific to different countries of the world, finally lead us to the same conclusion, as they aim to ensure an optimal level of taxes, as well as the related principles, so that they correspond exactly to the basis strategies of the state's development.

The effectiveness of fiscal policy is manifested by its consequences on economic activity, because through taxes, both direct and indirect, it intervenes in the process of obtaining and distributing income of economic agents and, respectively, on their financial results (Cuslii Eu., Munteanu T., 2015, p.108).

Income tax refers to direct taxes, since its amount is directly proportional to the taxpayer's final financial result of the economic activity and reflects his actual solvency (Minaeva E., Anoshina Iu., 2019, p.123).

Depending on the level of the country's economic development, as well as depending on its priority objectives, the fiscal mechanism differs considerably from one country to another.

Figure 2 shows the distribution of the world's countries according to the level of corporate tax rate among the 163 countries of the world. Based on the objectives of the research that provides for the argumentation of the level of the corporate tax in terms of the impact on the business environment development, the experience of other countries in this field will be taken into account.

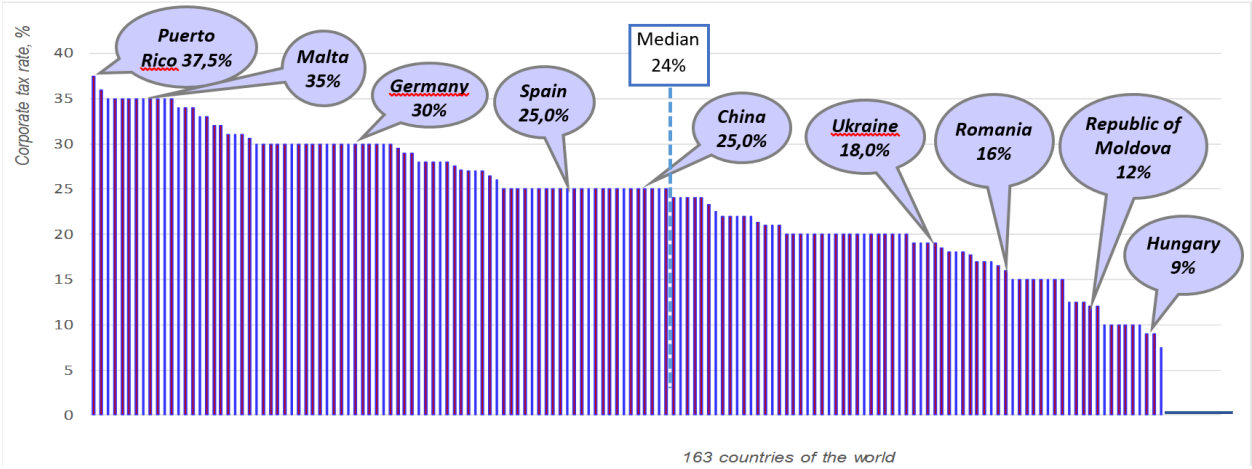

Figure 1 – Distribution of the world's countries according to the corporate tax rate specific to 2019*

*Source: data collected from https://tradingeconomics.com/country-list/social-security-rate. * on the base of data for 163 countries*

The spectrum of variation of the corporate tax rate is very high, starting with the maximum level of this indicator of 37.5% applied in Puerto Rico and up to the zero level of this indicator applied in the 7 countries of the world, such as: Vanuatu, United Arab Emirates, Isle of Man, Cayman Islands, Bermuda, Bahrein, Bahamas, this zero share of the corporate tax rate is tax haven specific.

Figure 1 shows very clearly that the average level of corporate tax rate for the 163 countries in the world participating in the study, is about 24%. Based on the value of the median, it can be stated that half of the countries have a corporate tax rate higher than 24%, and the other countries - below the level of 25%. In most European countries the corporate tax rate is quite high, the leader in this respect being Malta at 35%, followed by Germany at 30%, Belgium and France at 29%.

The European Union countries that gear towards attracting investment and developing the business environment, there is applied a lower corporate tax rate compared to the average level. In this context, such countries can be mentioned, such as Romania - 16%, Bulgaria - 10%, Hungary - 9%. Another European country in the process of joining the European Union, Montenegro applies a corporate tax rate of 9% to be more attractive to potential investors. Countries located in the cross-border area, such as the Republic of Moldova and Ukraine, have a considerably below average corporate tax rate, which aims mainly to attract foreign investment and business development.

Although potential young entrepreneurs are quite pronounced on the high level of taxes applied in the Republic of Moldova, considering it a negative factor hindering the development of the business environment in the Republic of Moldova, effective entrepreneurs who already know the key issues of business does not consider the level of the corporate tax to be high. In this way, entrepreneurs highlight several other issues in the tax field, such as: the presence in the state budget plan of the item of income from fines and penalties applied to businesses; the inconsistency between the fiscal rules and their imperfection; not using, ignoring or using formal procedures for the preliminary settlement of tax disputes; failure to protect taxpayers in court; lack of liability before the law of persons exercising poor tax administration (Grinic T., 2017, p.4).

The corporate tax is the main tax that is imposed on all economic agents engaged in entrepreneurship has a high level of variation, the distribution being asymmetric on the right, which allows us to conclude that most countries apply the higher level of this tax.

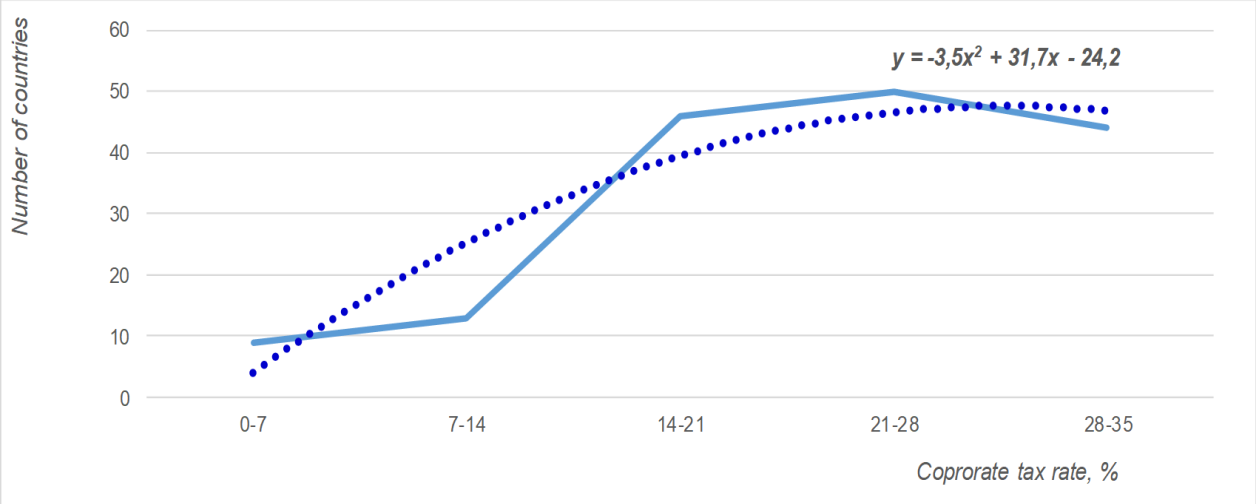

Figure 2 – Equation of distribution of the world's countries according to the corporate tax rate specific to 2019*

Source: data collected from https://tradingeconomics.com/country-list/social-security-rate

** on the base of data for 163 countries*

The corporate tax rate distribution differs considerably from the normal distribution curve being deviated considerably to the right. Half of the 163 countries of the world have the corporate tax higher than 24%, in this category being attributed both the countries with a high level of development, as well as the very poorly developed countries. Tax planning can be unfair as it effectively shifts the tax burden on other taxpayers, such as consumers or small and medium-size enterprises (SMEs) which operate at local level (Álvarez-Martinez M and others, 2016, p.6). The strategic goal of business is to optimize the tax base and business with value added and tax reduction in all areas of taxes (Teplicka K., 2018).

With all the above, in the Republic of Moldova the corporate tax rate is quite low, and the reduction of the tax burden in favor of increasing the volume of industrial production can be considered as a successful compromise between fiscal and incentive function, especially in developing countries.

In order to ensure economic growth in the country and at the same time ensure the necessary income in the state budget, reducing the level of corporate taxation is not a strictly necessary measure. Because there are a multitude of other solutions. How, for example, the US has decreased tax rates over time while keeping the income tax revenue as a share of GDP stable (Gillman M., 2020).

Another quite pronounced problem in developing countries is the problem of unofficial wage payments, called the "envelope wage problem". By using the informal payment of the salary or part of the salary, the employer tries to reduce the expenses related to the breakdowns with the state budget regarding social insurance contributions and health insurance contributions. In this context, the employer's payments related to social security contributions differ considerably from one

country to another depending on the insurance system, so that in some countries employers do not participate at all with health insurance contributions for their employees, in other countries dominate private health insurance systems, etc. Thus, an important category of payments for the employer that causes him to resort to informal payment of wages is social security contributions.

Broadly speaking, through the public social insurance system, any state guarantees its citizens the right to social protection in various cases such as: illness, disability, old age, unemployment by providing the beneficiary with social payments in the form of pensions, benefits, etc. In the broadest sense of the word, the social security system, being a component of the financial system, represents a multitude of relationships through which the redistribution of national income is achieved to reduce the impact of social risks.

In countries where the social system is very poorly developed, the level of insurance of the population in need of social assistance is inadequate, which in turn leads to a reduction of the population living standard and a decrease in the population's happiness score. As a result, there are multiple problems related to the intense migration of the population to those countries, in which social policy ensures a high level of the population social protection, ensuring a considerably higher standard of living.

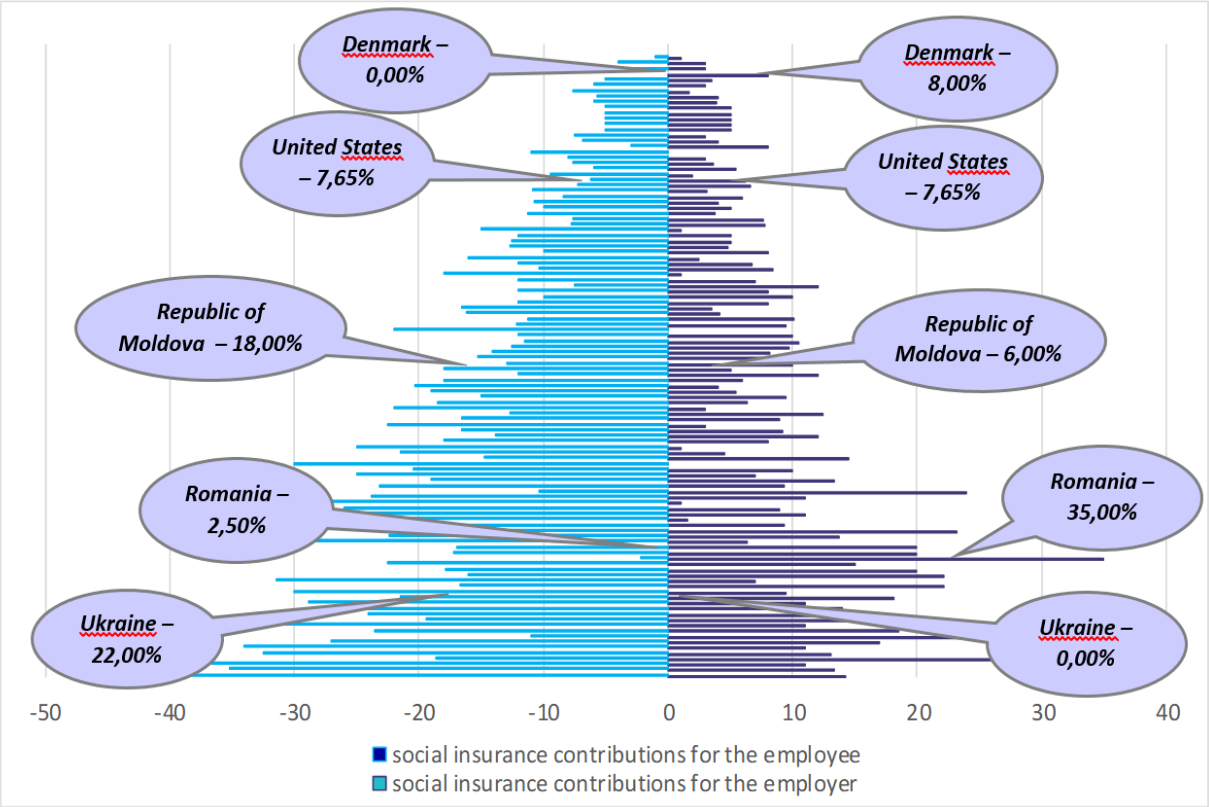

Figure 3 – Distribution of the world's countries according to the level of social insurance contributions for the employer and for the employee specific to 2019*

Source: data collected from https://tradingeconomics.com/country-list/social-security-rate

** on the base of data for 141 countries*

The level of social insurance contributions differs considerably from one country to another. In the social year, 2020 Among the European countries that allocate over 25% of GBP for social spending can be mentioned: France, Belgium, England, Denmark, Italy, Austria, Sweden, Germany. The social policy of these countries is well developed and the budget allows for such large-scale social spending. Obviously, for the state, the main source of income that will later be directed to cover various social expenses are social insurance contributions paid by the employer and by the employee.

Insurance contributions vary much more pronounced than the corporate tax that was examined above. Thus, the level of social insurance contributions varies from 0% in Qatar to 68% in France.

Most European countries are in the top countries according to the social insurance contributions. In addition to European countries that promote a strong social policy, a fairly high level of this indicator is also recorded in China at 48%.

In most countries of the world, social security contributions are paid by two parties: the employer and the employee. In the public social insurance system of the Republic of Moldova are established two types of mandatory contributions: the contribution, due by employers and the individual contribution, due personally by some payers, individuals.

Of great importance is the division of social insurance contributions between employer and employee and these proportions are very varied and differ from one country to another. Figure 3 reflects the distribution of the world's countries according to the level of social insurance contributions for the employer and the employee. The figure presented very clearly shows the distribution of social insurance contributions between the employer and the employee. From the zero axes, the figure has a pronounced deviation on the left side, which allows us to conclude that worldwide social security contributions are covered mainly by the employer, approximately in proportions of 65:35. At the same time, the fiscal policy of some countries differs considerably from the average situation in the world, the most special situations being registered in the distribution of social insurance contributions between the employer and the employee in the following countries.

- Denmark - the employer does not pay social security contributions and the employee pays only 8%;
- United States - the employer and the employee share equally the burden of social security contributions, both paying 7.65% each;
- Romania - the employer pays only 2.50% of the value of social insurance contributions, and the employee bears an imposing share of 35%;
- Ukraine - the entire burden of paying social security contributions is paid entirely by the employer who pays a share of 22.0%, while the employee from his income does not contribute to these breakdowns.

A large part of the countries to which the Republic of Moldova also refers (the contributions of the employer of 18% and the employee of 6%) respect exactly the average distribution worldwide. Considering that in the Republic of Moldova the issue of „wages in the envelope" is a current one, to bring money from the dark economy to the real economy the income tax rate for individuals has been reduced to a single rate of 12%, but it is quite difficult to say that the expected result is obtained. The increase in the level of social insurance contributions for the employee will stimulate a reverse reaction, orienting a part of the population to continue opting for unofficial salaries. The increase in the level of social insurance contributions for the employee leads to a decrease in the purchasing power of the population, which in turn will lead to a decrease in aggregate demand, reducing the effect and efficiency of economic entities. The social insurance system is not only an element of social protection of the population but also a comprehensive financial system. The social insurance system directly influences all participants: the economic entity, employees, and the state. The share of social security contributions represents a part of the company's expenses so that its change will lead not only to the change of the amount paid by the company but also to the change of various economic indicators that characterize the company's activity.

Tax policy has a double dimension in the national economy: one refers to the formation of public financial resources; the second is interventionist, which refers to concrete objectives of involvement, support and encouragement (Timus A., Cociug V., Alfeni L., 2017, p.94).

The increase of the level of social insurance contributions for the employer will have a rather considerable impact, in figure 4 is presented the chain effect of the increase of the share of social insurance contributions for the employer.

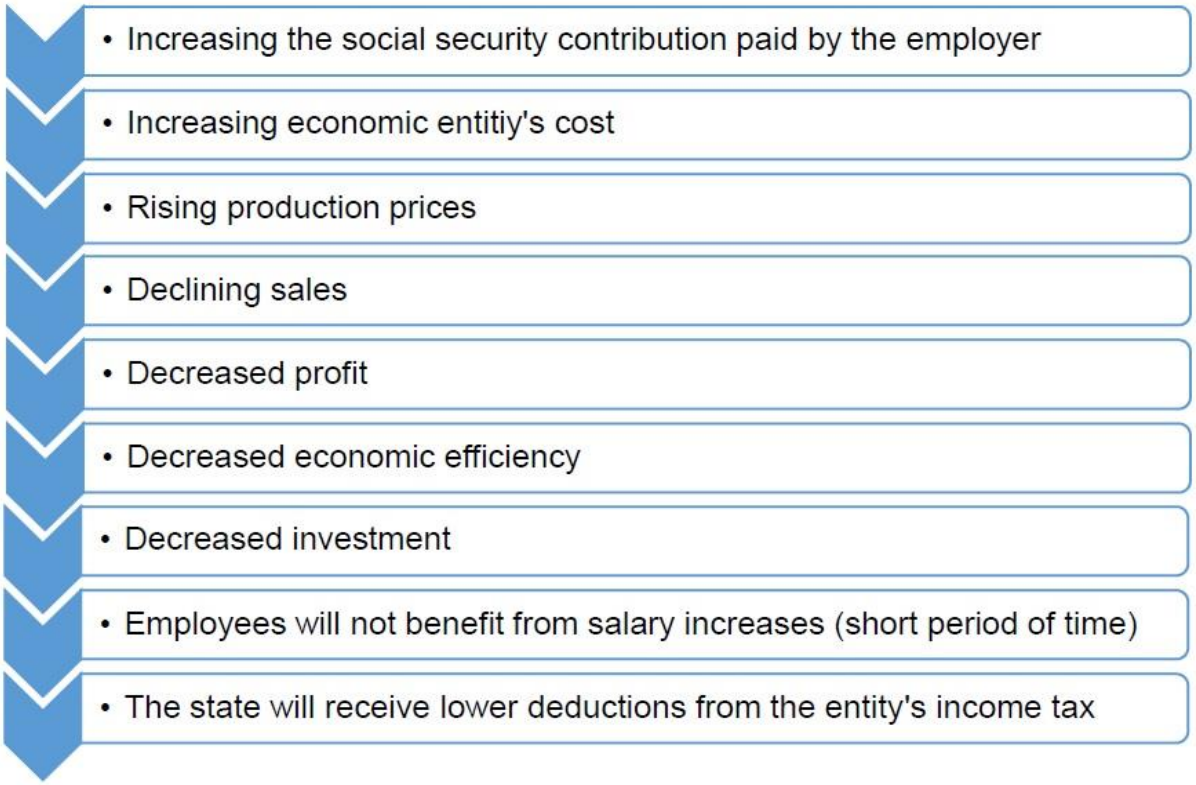
• Increasing the social security contribution paid by the employer
• Increasing economic entitiy's cost
• Rising production prices
• Declining sales
• Decreased profit
• Decreased economic efficiency
• Decreased investment
• Employees will not benefit from salary increases (short period of time)
• The state will receive lower deductions from the entity's income tax

Figure 4 –The chain effect of increasing the share of social insurance contributions for the employer

Source: elaborated by author

Theoretically, it would seem that increasing the level of social security contributions paid by economic entities would lead to increased accumulations in the fund, de facto there are a number of negative consequences, which ultimately lead to more damage to the state budget, than benefits.

One thing can be firmly concluded: in developed countries, although the level of corporate tax and the level of social insurance contributions is considerably higher compared to the average annual value of this indicator, economic agents do not oppose these taxes, respecting precisely the laws. In developing countries, which also refers to countries in the cross-border area, the level of corporate tax and the level of social insurance contributions is considerably lower, which should make economic agents responsible for paying these taxes without dodging. As a result, the state budget has a chronic deficit, which is influenced by both low taxes and the irresponsibility of taxpayers, several other priority factors hinder the development of the business environment, attracting investment, job creation, etc.

Conclusions and Future Directions

The fiscal policy's effectiveness in determining the level of taxes can be assessed by the consequences on economic activities. Although inductive research shows that even in countries with a considerably lower level of corporate tax and social insurance contributions, some entrepreneurs raise the issue of high taxes, the de facto business environment faces a much higher number of problems. In the case of developing countries, a vicious circle is obtained, all problems being interdependent and the low level of taxes is not the cause, but an effect of insolvency.

The social insurance system is not only an element of social protection of the population but also a comprehensive financial system. The social insurance system directly influences all participants: the economic entity, employees, and the state. Based on the collection of the 163 countries around

the world analysed in this paper, social security contributions are mainly covered by the employer, although in some countries there are considerable deviations from this distribution.

For further research, there is proposed the application of the correlational analysis by determining the mathematical model that expresses the influence of the tax level on the level of the state's development, being argued proposals to improve the situation.

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LAFFER CURVE IN EASTERN EUROPEAN COUNTRIES

Leonard-Dan Uzum, Bachelor in Finance and Banking[33]

Abstract:

The aim of this paper is to study the behavior of different categories of taxes: consumption, labour and corporate tax in Eastern European countries and to find the optimal tax rate for them. After finding out the optimal tax rate, using the Laffer Curve methodology, it will be compared with the average implicit tax rate and we will see if countries practice a higher or a lower level of taxation compared with the optimal tax rate. The importance of practicing optimal tax rates is because they maximize tax revenues, according to Laffer Curve.

Keywords:

Laffer Curve, Fiscal policy, Tax revenues, Optimum tax rate, Implicit tax rate.

JEL classification: H21, E62.

Introduction

Nowadays, almost more than ever before, the topic of fiscal space is becoming of striking importance for policymakers, due to the high importance of national economies to be able to sustain as much as possible the internal needs, but also to become competitive on global stage. In order to be capable of financing as many expenditures, states need a performant tax collection, and this can be achieved by maximizing the tax revenues than can be collected. Raising taxes could be the answer in a world where nothing else matters, but in reality, this is not the case. There is a hypothesis that states that taxes can be raised until a specific point in order for the tax revenues to be maximized and after that point the revenues collected will diminish. This case is happening because the tax payers are reconsidering their behavior, and will prefer to work less because they think the labour taxes are too high and they will achieve a better utility by having more free time, or if the consumption tax is too high, they will prefer to renounce to some goods and buy similar ones at a lower price, but less qualitative. In the case of corporate tax, if the taxes are too high in a country, firms will relocate their production facilities in other countries with a more competitive taxation system, or will reduce their production. All scenarios described before will have a common result, the reduction of taxation base, and so a diminish in revenues collected by the state.

In order to maximize fiscal resources, Arthur Laffer proposed a theory according to which resources can be achieve the maximum level at a certain taxation rate, and introduced the Laffer Curve, which will be studied in this paper for five eastern European countries: Bulgaria, Czechia, Hungary, Poland and Romania. The categories of taxes under examination where consumption tax, labour tax and corporate tax, for the latest the Laffer Curve did not respect the conditions to be a normal Laffer Curve and is an inverse one, and in the Methodology and Data sections will be presented the reason for that. This paper is structured as follows: in section Description of the problem will be presented some facts from the literature about the topic, in Methodology and Data will be presented the theory behind Laffer Curve and how this study is different from the point of view of methodology used, in section Results are discussed the outputs of this writing and in Conclusion will be stated some policy recommendations in order for tax revenues to be maximized.

Description of the Problem

The main goal of this paper is to show how governments can improve the collection of tax revenues using the theory of Laffer Curve. It is important to mention from the starting point, that the revenues collected from taxes in the countries presented are lower than revenues from taxes in both EU-28 and EA-19. One explanation for this cause could be a mismatch in rates for different

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types of taxes, and so the fact that the revenues collected are not at their peak. Other causes for the fact that revenues are not maximized by collection could be the tax system, the lack of digitalization or the fiscal compliance, which requires the start of a reform in this system.

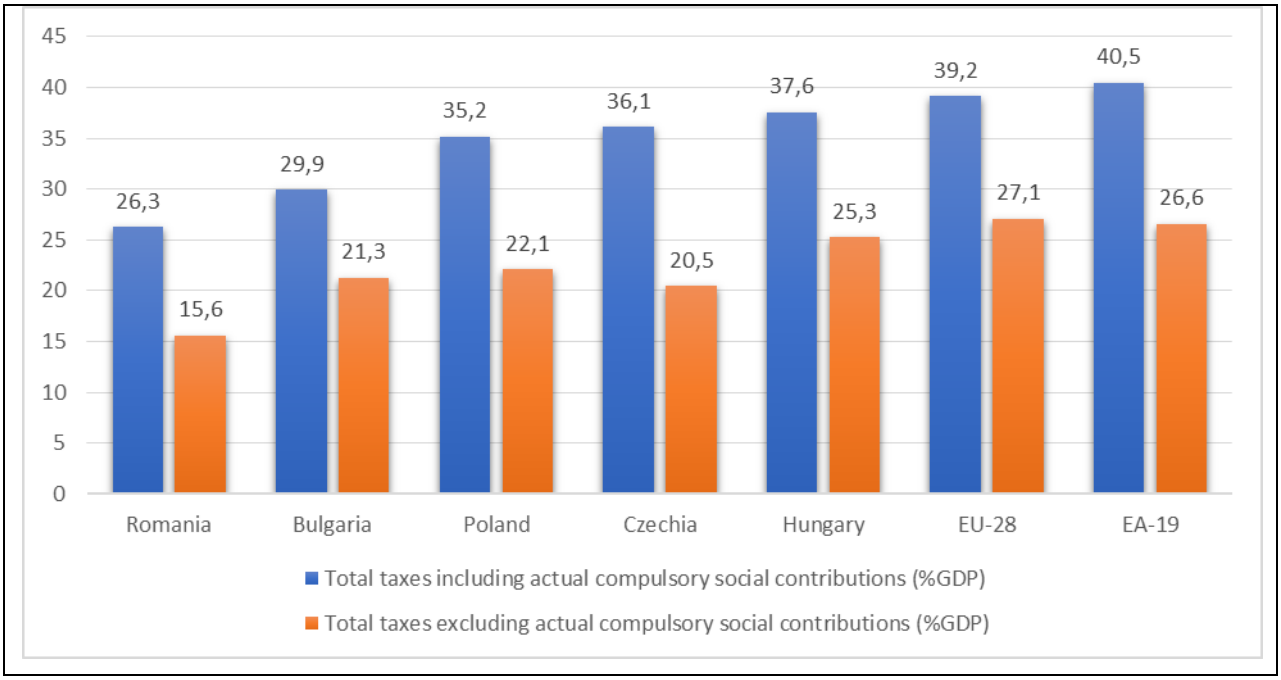

Figure 1 – Taxes level in 2018 (%GDP)

Source: Taxation Trends Report 2020

Figure 1 presents the taxes level in 2018, and we can observe that for all the five countries analyzed, the level of taxes also including and excluding actual compulsory social contributions is lower than in the EU-28, but also than in EA-19. All the five countries under analyses are emergent economies, and for them is vital to increase the revenues collected in order to be able to support expenditure in strategic areas like education, health or infrastructure and to recover the development gap between them and the countries considered to be advanced from social and economic point of view.

In the literature there are many studies that follow the logic of Laffer Curve and one the first studies regarding this methodology was the study of Canto, Joines and Laffer (Canto V., Joines D., Laffer A., 1980, Tax rates, market production and factor employment) in which they observed that an increase in the level of personal income tax leads to a decrease in the level of fiscal revenues collected, meaning an indirect effect between tax rates and fiscal revenues, and the fact that the US economy at that time was on the economic effect side of the curve.

A latter presented study of Goolsbee (Goolsbee A., 1999, Evidence on the high-income Laffer Curve from six decades of tax reforms) comes to different results from the previous one. It states that the US economy had periods during the history in which it was on the arithmetical side of the curve. In this study it was found that an increase with 1 pp of personal income tax, led to an increase in the level of fiscal revenues with about 0,7 pp. This could happen due to the fact that the elasticity of fiscal revenues was less elastic to changes in the tax regime.

Trabant in his study (Trabant M., Uhlig H., 2010, How far are we from the slippery slope? The Laffer Curve revised), showed that both US and EU-14 area are located on the left sides of their Laffer curves, but the EU-14 are much closer to their slippery slopes than US. In this paper it was found that US can increase tax revenues by 30% by increasing the labour tax rates, while EU-14 countries can increase tax revenues by only 8% for an increase of labour tax rates. In the case of capital income taxes, US can increase the tax revenues by 6% in case of an increase of capital income taxes, and EU-14 by only 1%. Another finding in this paper is that tax cuts in the EA-14 are more self-financing than in US, and tax cuts can be supported by the degree of efficiency produced

in the economy by the tax cuts. Also, the authors are supporters of maintaining a tax rate below the optimal one, due to the fact that welfare can be maximized in this way.

In his study, Kazman (Kazman S., 2014, Exploring the Laffer Curve: Behavioral Responses to Taxation) shows that movements in income tax revenues can be explained by the capital gains tax rate. It is showed that individuals take part in the income switching process when the top marginal income tax rate changes relative to the capital tax rate, and the fact that the direction of switching depends on the direction of tax change. Another finding of this paper is the fact that is more effective from a fiscal point of view to increase the tax rate especially for the high-income population.

Another paper that studied the relation between tax revenues and tax rates is the one of Gordon and Slemrod (Gordon R., Slemrod J., 1998, Are real responses to taxes simply income shifting between corporate and personal tax bases?) in which they showed how it is working the substitution effect between revenues from salaries and firms profit. They found out that people tend to adapt to fiscal changes by changing their type of realized income.

Giertz studied in (Giertz S., 2008, How does the elasticity of taxable income affect economic efficiency and tax revenues and what implications does this for tax policy moving forward) the relationship between the level of taxation for personal income tax and the tradeoff between working and free time. He showed that for an increase below a certain point in the personal income tax, people will prefer to work less and enjoy more their free time.

To resume, there is much debate in the literature on the effectiveness of Laffer Curve in calculating the optimal tax rate and to illustrate the relationship between tax revenues and total tax rates, but as economist Arthur Laffer said, this is a more pedagogic device.

Methodology and Data

In order to analyze the maximum level of revenues and the optimal tax rate that should be applicable to obtain that level of revenues, Laffer Curve is used. It highlights the bond between tax rate and revenues. In this paper are studied three categories of taxes: consumption, labour and corporate.

The equation that describes the Laffer Curve is:

$$R_{Tax}^{Real} = \alpha i + \beta i^2 \quad (1)$$

R_{Tax}^{Real}- volume of real tax revenues

i- tax rate

α, β- equation coefficients

The effects of Laffer theory are described in Figure 2, below:

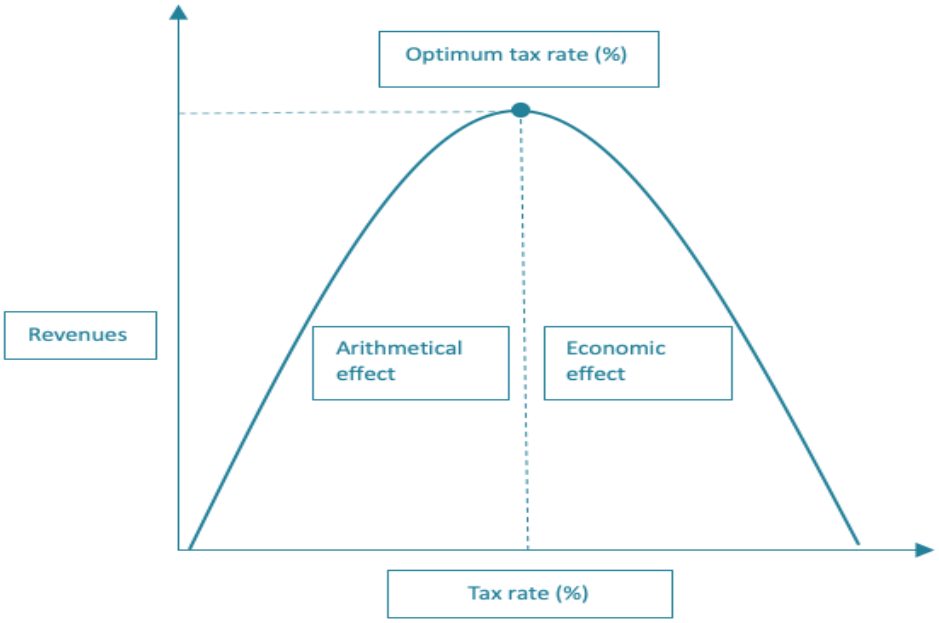

Figure 2. Laffer Curve

The effects on the Laffer Curve are the arithmetical effect, which states that when the tax rate increases, revenues will also increase, and the economic effect which is means that when the tax rate is increasing below the optimum tax rate, tax revenues will decrease.

After estimating Laffer's equation, we can find the optimal tax rate deriving it to i, and will result the following:

$$\frac{\partial R_{tax}}{\partial i} = \alpha + 2\beta i \quad (2)$$

$$i^* = -\frac{\alpha}{2\beta} \quad (3)$$

The existence conditions for this function are that $\alpha > 0$ and $\beta < 0$.

The data was collected from Taxation Trends Report for 2020, for five eastern European countries: Bulgaria, Czechia, Hungary, Poland and Romania, and the period under analyses is between 2006 and 2018. As methodology, panel data with fixed effects, as resulted from the Hausmann test, was used, rejecting the null hypothesis of the test, and was compared the average of implicit tax rate on each category of tax with the optimum tax rate obtained from panel.

Another important aspect regarding the methodology is that for the tax revenues were used real data, adjusting the nominal value with the harmonized index of consumer prices. Due to the variability of data, implicit tax rates were used, available in Taxation Trends Report for 2020.

Results

For the five eastern European countries studied in this paper, Laffer Curve is validated in the case of VAT and social security contributions plus personal income tax, and for corporate income tax we can observe an inverse curve, which is caused by a series of factors that will be detailed latter in this section. Another important aspect worth mentioning is that equations coefficients were not statistically significant for none of the categories of taxes categorized by economic function: consumption, labour and capital.

Table 1

Average implicit tax rates

Country	Average implicit tax rate on consumption (%)	Average implicit tax rate on labour (%)	Average implicit tax rate on capital (%)
Bulgaria	19,49	25,28	14,93
Czechia	18,54	39,56	21,84
Hungary	23,29	40,06	12,7
Poland	17,71	31,65	13,47
Romania	16,47	31,35	11,93

Source: Taxation Trends Report 2020, author calculations

After the average implicit tax rates were calculated, they should be compared with the optimal tax rate for each category of tax. The average implicit tax rates were obtained averaging implicit tax rates from Taxation Trends Report 2020, and the period under analysis is between 2006 and 2018.

In the next table will be presented the optimal tax rates as well as the alpha and beta coefficients, all statistically significant, used in the determination of the optimal tax rate as stated in the methodology.

Table 2

Optimal tax rates

Type of tax	Alpha	P-value	Beta	P-value	Optimal tax rate (%)
VAT	3,866229	0,0322	-0,0906	0,0502	21,34
Social security contributions + PIT	3,336183	0,0343	-0,06408	0,0298	26,03
CIT	-0,092355	0,0234	0,003164	0,0025	14,60

Source: authors calculations

Going further with the analysis we will compare the optimal tax rates with the average tax rates for each category of taxes and will see the level of tax revenues obtained by each country from applying the respective taxes. Also, on the figures, we will be able to analyze their positioning on the Laffer Curve and what should each country do in order to maximize the tax revenues collected from the point of view of tax rates.

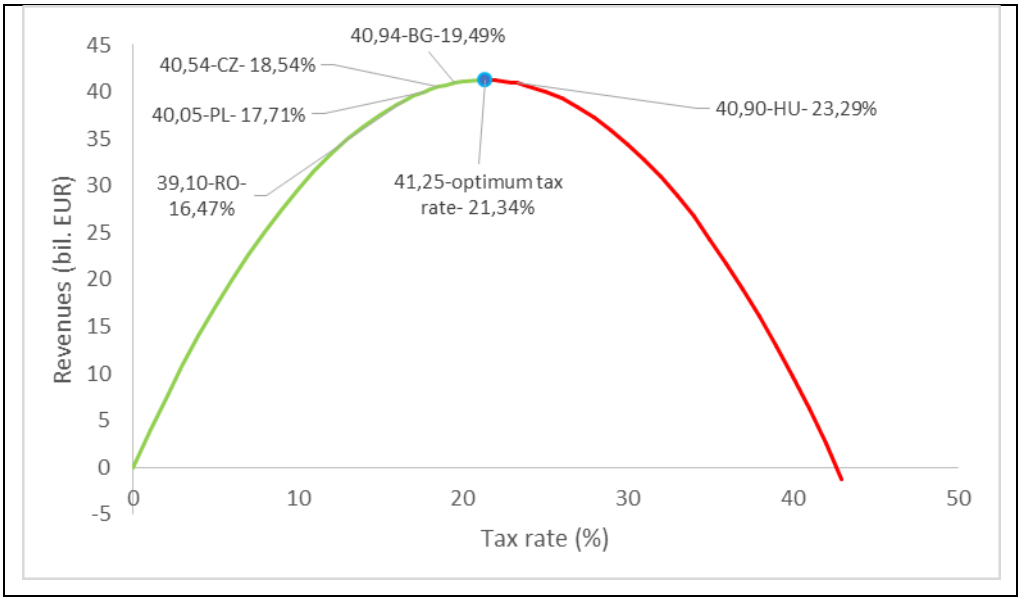

Figure 3. Laffer Curve for VAT

Source: Taxation Trends Report 2020, author calculations

In figure 3, we can observe that four countries are on the arithmetical side of the Laffer Curve, respectively Bulgaria, Czechia, Poland and Romania, and only Hungary is situated on the economic side of the curve. The closest countries to the optimal tax rate (21,34%) are Bulgaria with an average of implicit tax rate on consumption of 19,49% and a level of revenues of 40,94 billion Euros and Hungary with an average of implicit tax rate on consumption of 23,29% and a level of revenues of 40,9 billion Euros. Even though Bulgaria and Hungary are on different sides of the curve they can collect approximatively the same amount of revenues from VAT.

For the other countries, Czechia have an average implicit tax rate of 18,54% and the level of tax revenues is at 40,54 billion Euros, Poland can collect 40,05 billion Euros with an average implicit tax rate of 17,71% and Romania with an average implicit tax rate on consumption of 16,47% can collect 39,1 billion Euros revenues from VAT.

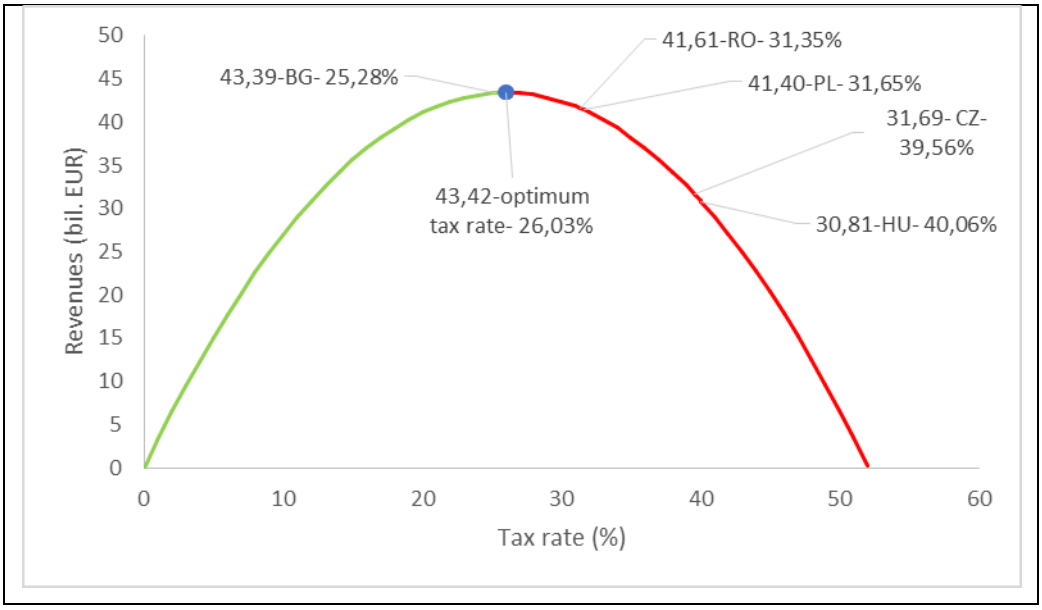

Figure 4. Laffer Curve for Social Security Contributions plus PIT

Source: Taxation Trends Report 2020, author calculations

For the case of taxes on labour taxes, the paper studies the impact of implicit tax rate on labour on revenues collected from the sum of revenues collected from social security contributions and PIT, due to the fact that they are the most important taxes related to labour.

In figure 4, only Bulgaria is situated on the arithmetical side of Laffer Curve, the rest of four countries under analyzes, are situated on the economic side. Looking at the data, Bulgaria with an average implicit tax rate on labour of 25,28% collects revenues of 43,39 billion Euros from labour taxation, being also the closest country to the optimum tax rate, which is of 26,03%. The second country that collects the higher level of revenues from labour after Bulgaria is Romania, which has an average implicit tax rate on labour of 31,35% and revenues of 41,61 billions Euro. Romania is followed by Poland with an average implicit tax rate of 31,65% and Czechia with 39,56%. From the countries under observation, Hungary has the highest average of implicit tax rate, 40,06%, and collecting only 30,81 billion Euros from taxes related to labour.

For the countries situated on the economic side of the Curve, is recommended a reduction of taxation on these categories of taxes in order to be able to collect more revenues. It is important to mention that a decrease of tax rate in the case of countries situated on the economic side of the curve, especially Hungary and Czechia, could result in a better outcome of the economy, as the multiplication effects will drive positively the output. The multiplication effects could mean: a decrease in the unemployment rate, due to the higher resources of capital of firms, or an increase in the salaries of the employees, or even new investments of the firms in economy. All of these could create more welfare for the citizens, which should be the supreme goal of any government.

Going further with the analyzes, we will see a special case of tax, CIT, which does not respect the Laffer Curve for the analyzed countries, in the analyzed period. The outcome of the calculations led to an inverse Laffer Curve for this category of tax, which could mean that the decision regarding the establishing the tax rate was a discretionary one.

An inverse Laffer Curve means that for the tax revenues we will have a minimum point given by the optimum tax rate, and explained from a mathematical point of view, now α is negative and β is positive. From economic point of view, this situation could not happen, and this could represent a weak spot of Laffer Curve.

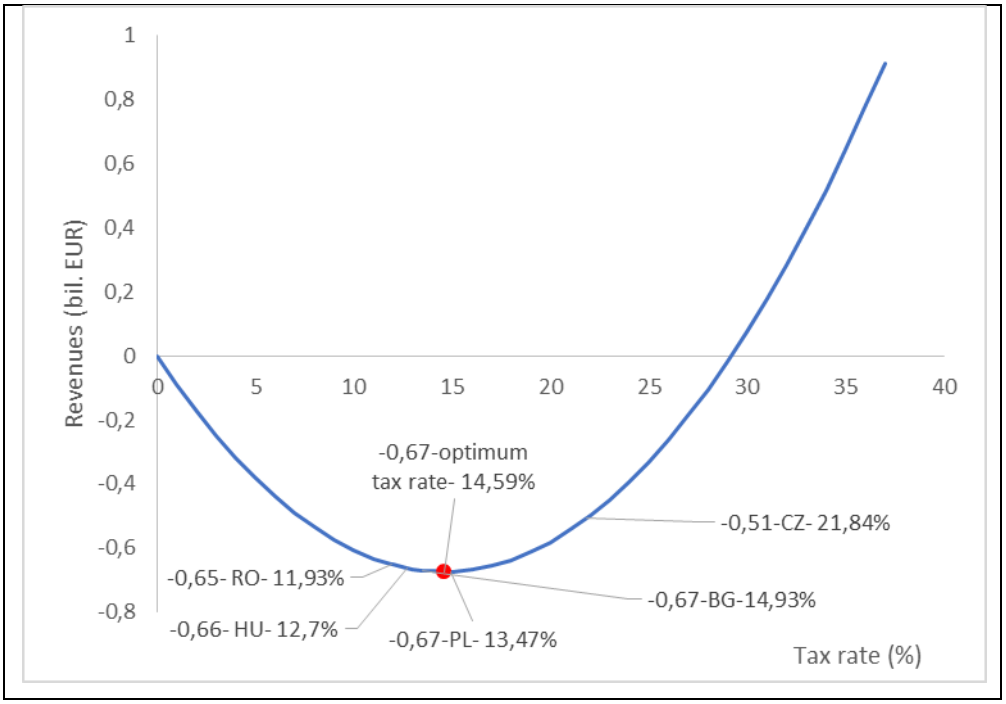

Figure 5. Laffer Curve for CIT

Source: Taxation Trends Report 2020, author calculations

Conclusions

As a conclusion, we can observe from the results those countries under analyzes can be dividend in two categories: the ones that are on the arithmetical side of Laffer Curve, and the ones on the economic side. As a general conclusion, it is recommended for countries to implement tax rates as close to the optimum as possible. For the countries with tax rates above the optimum tax rate, they should decrease the tax rate, in order to increase the tax base and collect more. For example in the case of labour taxes and capital taxes if the countries have a higher tax rate than the optimum one, it should be decreased because additional resources will be available in the economy and this could mean: new jobs, new investments or even higher salaries for the existing work force, all of them having as effect economic growth and an increase in the welfare of the population. In the case of consumption taxes the practice of tax rates equal or below the optimal one could mean a change in the consumption habits of people and a preference for more qualitative goods that create more added value in the economy, compared with a tax rate above the optimal one, that could mean a decrease in consumption, a lower quality of products consumed by population and less social welfare.

Another aspect important to be mentioned is the fact that tax rates are not the only elements in the way of maximizing the collection of revenues to the state budget. There are aspects like digitalization of fiscal authorities, the transparency of public policies in this field, debureaucratisation, or even popular culture with respect to tax compliance.

Future Directions

As future directions, it should be mentioned the more in detail examination of countries fiscal measures taken in order to increase the collection of revenues, or to see the differences between the fiscal systems for the analyzed countries.

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SECTION II. FINANCIAL AND MONETARY CHALLENGES

THE ANTI-CRISIS MANAGEMENT SYSTEM OF FINANCIAL STABILITY OF THE BANKING SYSTEM

Victoria Cociug, PhD., Associate Professor [34]

Victoria Postolache, PhD., Associate Professor [35]

Abstract:
The main objective of crisis management system financial stability of the banking system, in our opinion, is to recognize the extent of the impact factors of the crisis; defining ways and methods of crisis management, measures to overcome the future crisis with the lowest losses.
The purpose of the article is to determine the correlation between the anti-crisis management and the financial stability of the banking system. When developing the principles of the anti-crisis management system of the banking system, it is necessary to take into account the factors that should be taken at all levels.
Keywords: anti-crisis management, financial stability, solvency, liquidity,
JEL classification: G21

Introduction

Regulated bank anti-crisis management is one of the stages of the economic management cycle and is a system for monitoring, comparing, checking and analyzing crises to assess the validity and effectiveness of management decisions developed and adopted to stabilize economic development and identification their degree of implementation. In national and international practice, the concept of crisis management has been defined, although there is no unanimous agreement among scientists. The term "crisis management" has emerged relatively recently, and the reason for its emergence is the existence of a large number of enterprises that are on the verge of bankruptcy [1, p. 102]. The purpose of crisis management is to develop and prioritize the implementation of measures aimed at neutralizing the most dangerous (which intensely influence the ultimate phenomenon) factors that lead to a crisis. The purpose of crisis management involves the effort for an optimal degree of stabilization in a particular business area through the widespread use of anti-crisis measures.
The modern approach to crisis management can be expressed in three key principles:
1. The purpose of crisis management is not to prevent bank failures, but to safeguard the stability of the financial system and to minimize possible negative economic consequences;
2. In a crisis situation, preference will always be given to the private decisions of the bank or the group itself. Problem banks' management will be responsible for rescuing the bank, and if shareholders do not save it, creditors and uninsured depositors should be prepared to suffer losses;
3. The use of public money to remove a bank from crisis will only be used if there are serious systemic threats to the economy and only in cases where the amount of state insurance liability significantly exceeds the cost of recapitalization at State expense. The circumstances and terms of the possible intervention by the State can not be determined in advance. Strict and individual conditions apply to any use of public funds.
In modern economic literature, there are two main approaches to defining the essence of crisis management that involve the use of:
- anti-crisis measures to overcome the crisis of a separate bank;
- complex actions not only to overcome the crisis, but also to timely diagnosis, to prevent and neutralize the crisis, and to ensure the positive evolution of the bank further.
Taking into account the activities and the capacity of their influence on the socio-economic relations system, it is necessary to carefully develop the crisis management mechanism of the

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banking system. Given that the open phase of the crisis occurs when there is a confluence of several factors and reasons that have been sufficiently developed, it is very important to be ready to identify the problems in time and to take appropriate measures to prevent bankruptcy. In this case, it is necessary to take into account the characteristics of crisis management in the banking sector.

First of all, the organization of bank crisis management comes from the following hypotheses:

– can be expected, expected and caused crises in banks, as well as to a certain extent, can be moved or accelerated;
– it is possible and necessary to prepare for crises;
– crisis processes can be managed up to a certain limit and controlled;
– crisis management requires special approaches, knowledge and experience;
– managing the crisis recovery process can minimize its negative consequences [2, pp. 131-132].

Secondly, crisis management is systematic, organized on an ongoing basis, both micro and macro, in terms of diagnosis, prevention and overcoming of the crisis. As a consequence, the crisis management system includes the elements mentioned in figure 1.

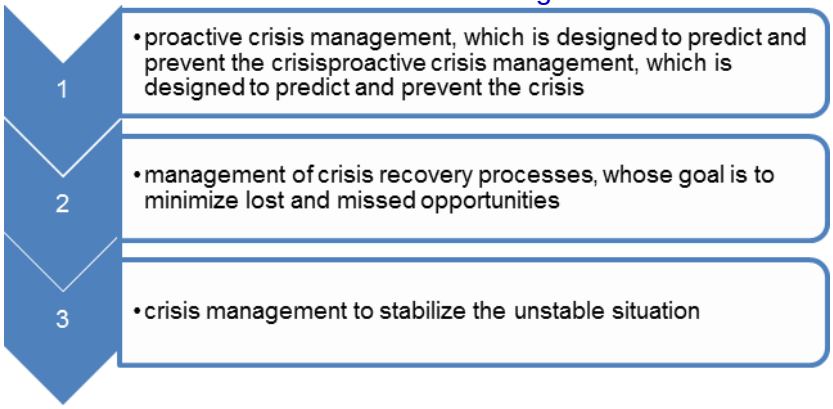
1
•proactive crisis management, which is designed to predict and prevent the crisisproactive crisis management, which is designed to predict and prevent the crisis
2
•management of crisis recovery processes, whose goal is to minimize lost and missed opportunities
3
•crisis management to stabilize the unstable situation

Figure 1. The elements of the anti-crisis management system

Source: elaborated by author

Thus, crisis management in a broad sense implies a specific activity, including preventative work in times of crisis, as well as overcoming the crisis situation both at the level of a particular bank and the banking system as a whole.

Thirdly, banking crises have various causes, duration, level of influence and spreading (local or macro level). Depending on these characteristics, it is necessary to develop and implement various measures to eliminate the crisis phenomena.

Fourthly, crisis management is a system of decisions and measures to manage the diagnosis, prevention, neutralization and overcoming of the crisis phenomena and their consequences in the banking sector. In addition, crisis management is reactive in nature and aims at rapidly detecting and eliminating crises.

Fifth, crisis management is multilateral and is researched in various aspects - organizational, financial, managerial, legal and economic. However, they differ depending on the subject of crisis management - a particular commercial bank or the banking system as a whole.

The purpose of the research consists in developing conceptual approaches regarding the anti-crisis management through the elements and factors that affect the financial stability of the banking system. In accordance with the stated purpose, the following objectives are defined:

1. Research the characteristics of crisis management in the banking sector;
2. Identification of the factors affecting the anti-crisis management system of the financial stability of banks;
3. Researching the types of policies promoted by the Central Bank in order to ensure the financial stability of the banking sector in correlation with the vector of economic development of the state;
4. Strengthening the financial stability of the banking sector through crisis management tools in the banking sector.

Results and discussion

In addition to the characteristics mentioned in figure 1, it is necessary to take into account the factors that are involved at the macro, mezo and micro level in the elaboration of the methodological principles of the anti-crisis system for managing the financial stability of the banks:

1. Macro level factors: development of financial globalization, cyclical development of the economy, problems of managing international financial stability and liquidity;
2. Meso-level factors: imbalances in the development of the financial market, processes of formation and spread of systemic risk, disintermediation, financial innovations and communications, asymmetry of information in the financial market;
3. Micro-level factors: the systemic nature of financial instability of banks, the need to introduce tools and methods of macro-regulation and improve micro-regulation methods.

In our opinion, considering the above classification of the factors that affect the anti-crisis management system of the financial stability of banks, it is necessary to consider the main anti-crisis measures used by the government bodies and to establish the main criteria by which to elaborate an anti-crisis program of measures to ensure the sustainable financial development of banks. An important feature of anti-crisis management in the banking system is the involvement of the state in the process, which is, in fact, the subject of crisis management.

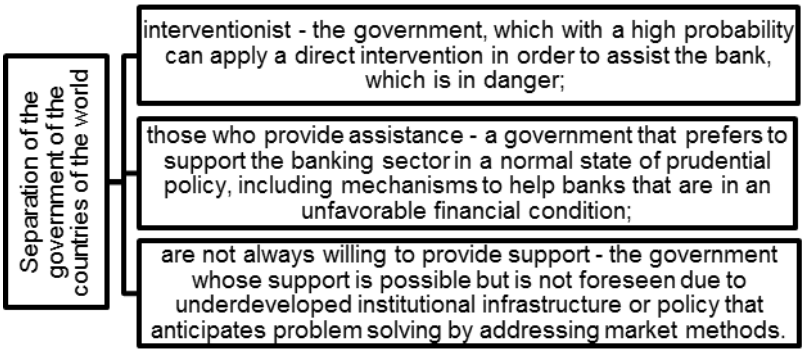
Separation of the government of the countries of the world
interventionist - the government, which with a high probability can apply a direct intervention in order to assist the bank, which is in danger;
those who provide assistance - a government that prefers to support the banking sector in a normal state of prudential policy, including mechanisms to help banks that are in an unfavorable financial condition;
are not always willing to provide support - the government whose support is possible but is not foreseen due to underdeveloped institutional infrastructure or policy that anticipates problem solving by addressing market methods.

Figure 2. Types of policies promoted by the government

Source: elaborated by author based on source information 3, p. 12

The significant role of the state is addressed by economist S. Korneev in the following: the first and subsequent anti-crisis attempts have proven that the regulatory resources of the country and the central bank have been and remain a determining factor in stabilizing markets and banking systems. Until the government solves the liquidity problem in the banking sector and the proper financing of the real sector, so long as the economic renewal does not take place. The state of affairs "compensates for market failures," when self-regulation is limited, and the classical thesis of the "invisible hand" of the market is transformed into a more effective thesis of the state's "saving hand" [4, pp. 22-24].

In our opinion, the most accurate and complete is the classification of crisis management subjects of the banking system proposed by economist V. Shpachuk and presented in figure 3.

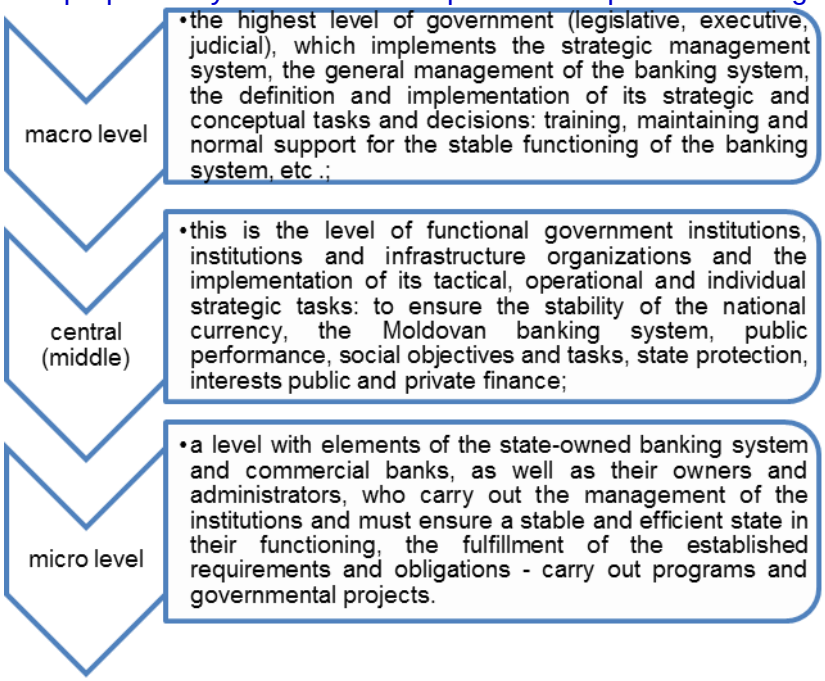
macro level
•the highest level of government (legislative, executive, judicial), which implements the strategic management system, the general management of the banking system, the definition and implementation of its strategic and conceptual tasks and decisions: training, maintaining and normal support for the stable functioning of the banking system, etc .;
central (middle)
•this is the level of functional government institutions, institutions and infrastructure organizations and the implementation of its tactical, operational and individual strategic tasks: to ensure the stability of the national currency, the Moldovan banking system, public performance, social objectives and tasks, state protection, interests public and private finance;
micro level
•a level with elements of the state-owned banking system and commercial banks, as well as their owners and administrators, who carry out the management of the institutions and must ensure a stable and efficient state in their functioning, the fulfillment of the established requirements and obligations - carry out programs and governmental projects.

Figure 3. Crisis management levels

Source: developed by the author based on source information 4, p. 25

Depending on the type of banking crisis, it is necessary to make a choice of anti-crisis management tools in the banking sector. These tools are divided into two groups: non-market and market. The first group includes emergency measures and restrictions on banking competition and areas of activity, and the second group includes financial, operational and structural measures. Each of these tools has a specific application described in table 1.

Table 1

State crisis management tools in the banking sector

Tools	Characteristics
Non-Market	
Emergency measures	Suspension of repayment of deposits to stop investors' attacks may take the form of "freezing" deposits and introducing bank holidays;
Restriction of competition and banking activities	Regulation of interest rates and foreign exchange transactions, direct lending to priority sectors, consolidation of state-owned banks, establishment of national and regional barriers for banks. It leads to large financial losses and to the concentration of the banking system
Market	
Financial	Meant to solve liquidity problems: improving the quality of the balance sheet, updating the solvability of the bank does not solve the main causes of instability and needs to be supplemented by operational and structural instruments. These include: the central bank fulfills the function of the ultimate creditor, the provision of state guarantees for deposits and other debts of banks, the provision of financial assistance from banks by the state, the infusion of private capital, the indirect state support methods (system review the taxation of banks)
Operational	It aims to improve the level of internal control and efficiency. These include: change of management, focus on core business, which implies the conclusion of an agreement with a trust foreign bank on operational restructuring
Structural	Aimed at identifying the underlying causes of the crisis in the financial sector, ensuring fair competition and overall system reliability. These include: liquidation, mergers and acquisitions of banks, privatization, bad asset management, condescension for banks to meet regulatory requirements

Source: elaborated by author

Researchers Holsher D. and Kuintin M. identify three stages of public management of systemic banking crises, for each of which an appropriate set of tools can be used:

1. Crisis control - at this stage, after detecting the systemic elements of the crisis, public authorities (actions coordinated by governments, central banks and financial supervisors) must put in place urgent measures to stem the spread of the crisis across the system. Such measures involve the use of financial instruments such as the extension of the bank deposit guarantee scheme, the liquidity support of banks, the immediate elimination of insolvent banks. However, if the situation does not stabilize, governments are often forced to resort to extreme measures - stopping repayment of deposits or introducing bank holidays. The operational use of these instruments is necessary first of all to gain time for the state to develop an efficient, comprehensive and coherent transition policy to avoid further crisis phases. Otherwise, they can not stop the development of the crisis and will lead to lower public confidence in the actions of the country;
2. Restructuring of systemic banks aimed at restoring the solvency and profitability of banks, performing the intermediate financial functions. This process is usually quite long, it must start with the development of an effective legal and institutional framework for the implementation of bank restructuring. The first step directly to restructuring is to assess banks' assets in order to study their current state. For this purpose, the standardized methodology to benchmark banks is to be applied. According to its results, banks are to be divided into the following categories: insolvent, sub-capitalized and viable banks that meet all the necessary criteria. As for the first category of banks, structural instruments such as: selling the bank to other owners, merging, taking over and liquidating the bank can be used. The latter category of banks does not require special attention because it normally operates in a period of crisis. The focus of the restructuring process should focus on the second category of banks and on those banks whose elimination should not be allowed because of its large size as well as on systemically important banks that are located in the

first or in that bank last category, and must be saved anyway. Here it is necessary to distinguish between financial and operational restructuring.
Financial restructuring aims to improve the balance of banks by attracting additional capital (eg. by obtaining funds from existing or new owners or government, ie. private or state capital infusions), reducing debt (eg. by canceling or by increasing the value of assets (for example, by increasing the value of non-performing loans or software).
Operational restructuring aims at updating the bank's profitability by using operational tools. Solvency update is a quicker and easier process, but in order to strengthen the efficiency of reforms, financial restructuring should be complemented by operational restructuring aimed at updating banks' profitable operations that require time and work. Some researchers believe that in this case the implementation of restructuring is more appropriate to be created separately from a public institution, not from the central bank, which must always be ready to support viable banks;
3. Confronting the "bad" assets needed to modernize the economy and which should be complementary to the restructuring of banks. The task of "rehabilitating" assets is to maximize the value of "bad" assets, minimize bank losses and "erode" capital. The management of these assets can be done by the bank through independent restructuring or cancellation of their balance sheet value; the transfer or sale of the bad credit repayment company or a private company specializing in the management of bad assets - the transfer or sale of the company with centralized asset management, which in most cases is a public institution [5, p. 72].
Among the criteria for the rational use of anti-crisis measures at the macro level, we should consider the system of management of problem assets, internal standards and limits, the reorganization of banks on their own initiative, special measures, the development and efficiency of anti-crisis programs. The presence of distressed assets adversely affects the regulatory capital of banks, limiting the prelaunch of loans to the economy. The above mentioned ones significantly impede the stimulation of the economic growth and the increase of the investment attractiveness of the country. This statement results from the data presented in figure 4.

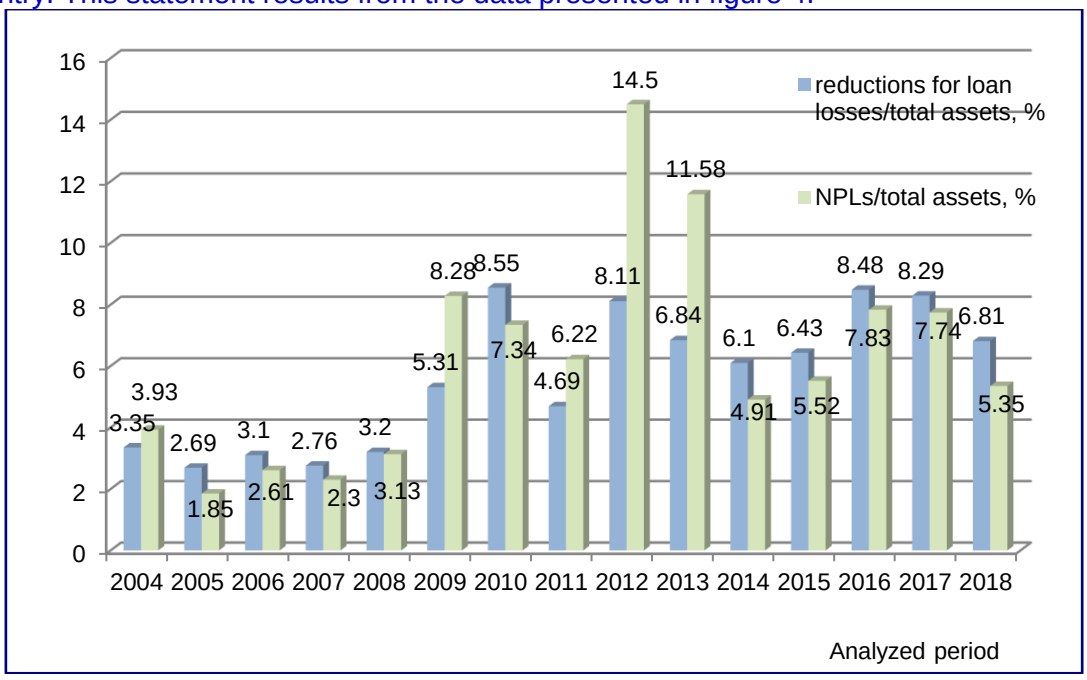

Figure 4. The evolution of credit risk in the banking system of the Republic of Moldova
Source: elaborated by the author based on data from www.bnm.md/md/financial_indices_of_bank_system

The data presented in figure 4 indicates that the reductions for the losses related to the total assets of the banking system reflect a sensitivity of the assets to the credit risk that reduces in the years 2004-2005 from 3.35% to 2.69%, after which it increases to 3.1%, in 2006, and again it reduces to 2.76% by the end of 2007. This fluctuation is considered to be normal when the first crisis signals appear on the world financial market. The period of the crisis reveals a negative dynamic, being present an increase of the ratio between reductions for loan losses and total assets from 2.76 to 8.55% in the period 2007-2010, followed by a recovery of the situation in the context of a more monitoring strict from the NBM of lending operations on the national banking market. The year

2012, considered as a year of total exit from the financial crisis, comes with an essential increase of the resultant indicator to 8.11%, with 3.42% more than 4.69% since the end of 2011. The increase is followed from a decrease to 6.84% and 6.1% of the report analyzed at the end of 2013 and 2014, after which an increase in 2014 - 2016 is observed at 8.48%. For the years 2016 - 2018 the NBM reported decreasing values for the ratio of loan losses to total assets from 8.48% to 6.81%, values influenced by the increase of total assets from 72830.42 million lei to 83076.57 million lei.

The ratio of non-performing loans to total assets is variable, meaning that for the 2004-2005, 2006-2007, 2009-2011, 2012-2014 and 2016-2018 periods, the reduction is characteristic, the values being reflected in figure 5, and in the others years we see an increase to the maximum values of 8.28%, in 2009, and 14.5%, in 2012. The year 2009, being considered as a crisis year, is a less favorable one for the credit risk indicators in the banking system of the Republic Moldova and because of granting loans not legally covered by pledge or other form of guarantee. The year 2012 is considered to be negative due to the unfavorable consequences as a result of the attacks that took place on the banks and, of course, we do not forget the Banca de Economii SA, which suffered from the increase of the total normative capital and of an incorrect policy in the field of lending. At the same time, for 2014, an unfavorable evolution of the banking system is characterized, being found 3 problem banks: Banca de Economii SA, BC "Banca Socială" SA and BC "Unibank" SA, which according to the NBM decision will be liquidated. Thus, the liquidation of these banks generated in 2014-2016 an increase from 4.91% to 7.83% of the ratio between non-performing loans and total assets.

Despite the importance of improving methodological support for financial rehabilitation of credit operations, we should emphasize the existence of another, not less serious, problem - crisis management. Obviously, the leadership of the bank, which is in a crisis situation, must be fundamentally different compared to the bank that works successfully. Moreover, the bank needs to develop a new strategy and more concretely - a strategy for change. The purpose of the change strategy is to restore the sound financial base by eliminating the causes of the crisis. The success of the strategy will depend on the profound analysis and understanding of the causes of the loss of a significant part of the bank's share capital.

Management of crisis situations in the bank should take place not only when the crisis has already arrived (in this case it will most likely be delayed), but it starts and continues from the first days of its existence. For this, the methods of preventive crisis management should be applied professionally and efficiently. These methods are:

1) continuous anti-crisis monitoring of the external and internal environment, in order to detect early threats to the bank;

2) analyzing the internal vulnerability of the crisis facility, identifying, if possible, relevant indicators. The following are usually used for the bank:

- the specialized subdivisions of the bank are not able to act together and identify the emergent situation and the situation of the bank as a whole;
- bank employees tend to pay more attention to the internal situation within the bank than to the external environment, while rivalry with domestic competitors dominates the external environment;
- rejection or inability of the bank to make changes;
- the inability of the bank to perceive properly and to be aware of the signals from the external environment;
- the desire to avoid the rules for short-term benefits.

Financial market events increasingly show how vulnerable the banking giants are, despite their apparent power. In line with internationally accepted standards, the banking protection system should provide for three elements:

- risk control mechanisms (risk management);
- emergency plans to minimize damage;
- measures to cover losses.

The complexity of the combination of strategic and tactical anti-crisis measures is becoming more acute due to the fact that these are usually extraordinary, and they need to be implemented in a short period of time, if the crisis has already arrived. With regard to crisis management, the tactical choice of a list of priority actions largely determines the future strategy of crisis management operations.

The crisis management tactic and strategy are oriented towards achieving results at each stage of the crisis. From the crisis management purposes, the main results of the measures for its implementation are:

– forecasts for crisis development, evaluation of negative trends and identification of negative influence factors on the economic system
– selecting ways to stabilize the economic system
– identifying the effective ways of carrying out the state's anti-crisis policy
– events to adapt the region (sector) to the dynamic factors of the external environment
– modeling the behavior of the economic agents on the market, developing the expected scenarios of the market situation
– establishing a crisis management system and regulating the rules
– determining the mechanisms of resistance of the development of the market infrastructure.

In order to regulate the crisis situation of the banking infrastructure, it is necessary to gradually implement all the elements. However, it should be noted that it is impossible to carry out, separately the anti-crisis regulation of the banking infrastructure, it is a complex of measures, including the impact on the activity of all credit institutions, creating conditions for the continuation of their activity.

The functions of the anti-crisis management system for the financial stability of banks include:

- diagnosis of crisis symptoms;
- development of a financial recovery strategy;
- insolvency settlement;
- restoring financial stability;
- ensuring the financial balance;
- elaboration of crisis management plans;
- control over the implementation of management decisions.

In its position as intermediary on the financial market, with a minimal appeal to its own resources, the banking sector is one of the most regulated economic sectors. The rigorous control of the activity of the banking sector is due, in large part, to the central role played by it in the economy of a state. The assessment of the stability of the banking sector is carried out through the indicators on financial stability (FSI). FSI reflects the state of current financial health and the soundness of a country's financial institutions, as well as their partners.

Based on the state of the banking sector in terms of both financial stability and social-economic efficiency, it is necessary to analyze the financial stability indicators according to the data presented in table 2.

Table 2

Evaluation of financial stability indicators

Financial indicators	2012	2013	2014	2015	2016	2017	2018
Income and profitability							
Return on capital, %	5,6	9,4	5,86	10,16	11,12	11,42	11,6
Return on assets, %	1,1	1,6	0,85	1,67	1,83	1,91	1,9
Liquidity							
Principle 1 of liquidity (≤ 1)	0,7	0,71	1,54	0,7	0,64	0,61	0,72
Principle 2 of liquidity (≥ 20%)	32,9	33,76	22,48	41,73	49,3	55,48	54,64
Capital adequacy							
Risk-weighted capital adequacy, %	24,4	23,02	13,92	26,3	29,77	31,03	31,32
Risk weighted capital adequacy norm, %	≥16	≥16	≥16	≥16	≥16	≥16	≥16,5
The balance of net non-performing loans / total regulatory capital, %	25,9	59,07	53,04	40,6	59,08	58,11	41,06

Source: elaborated by the author based on data from www.bnm.md/md/financial_indices_of_bank_system

According to the data presented in table 2 we can note the following:

- the performance indicators evolve positively in the period 2012-2013, indicating a favorable situation in the banking sector, whereas in the years 2013-2014 we attest a reduction due to the theft produced. The return on capital has increasing values for the whole period analyzed from 5.86% in 2014 to 11.6% in 2018. The return on assets also shows a stable growth for the whole

period from 0.85% in 2014 to 1.9% in 2018. This evolution shows an efficient financial management of the banks and a tendency of expansion of their possibilities;
- liquidity indicators indicate a different trend by the indicators analyzed previously due to the existence of rigorous prudential limits at this chapter. Thus, the long-term banking liquidity per banking sector is increasing from 0.7 points to 1.54 points in 2012-2014, and the regulation of the liquidity principle 1 is not respected in 2014 with a value of 1.54 being higher as the norm of 1 unit. During the rest of the period this indicator varies between 0.6-0.72 units. The current liquidity shows an uneven evolution during the investigated period due to the unstable economic situation and the deficiencies found in 3 banks of the banking system "Banca de Economii" SA, BC "Banca Socială" SA and BC "Unibank" SA. The norm of the liquidity principle 2 is respected for the whole period starting with 22.48% in 2014 and ending with 54.64% in 2018;
- the financial stability indicators calculated on the basis of bank capital are reduced in 2012-2014 under conditions of banking instability and in response to the delayed global banking crisis in the Republic of Moldova. The situation is changing for the end of 2018 when all indicators are growing. The average of the adequacy of the risk-weighted capital of the sector is maintained at a high level, except for 2014, which was determined by dubious transactions by granting non-performing loans and the bankruptcy of three banks. Non-performing loans, reported to CNT, increased in 2012 - 2013 from 25.9% to 59.7% and a decrease at the end of 2015 to 40.06%, under the conditions of a banking crisis since the end of 2014. With however, in the next period 2015 - 2016 we can see an increase of the resultant indicator to 59.08%, the maximum value of the entire period evaluated due to the changes that have occurred in the composition of the national banking system. The situation is improving in 2017 and 2018 when we notice a decrease in the ratio of non-performing loans and own funds to the values of 58.11% and 41.06%.
Thus, the management of banking system crises is a system of operational and strategic management activities and decisions that operate continuously and aim at preventing, diagnosing, neutralizing, minimizing and overcoming the crises and their consequences at all levels of the banking system.

Conclusions

The presence of a well-designed anti-crisis strategy allows the bank to solve a number of basic tasks:
1. Based on the anti-crisis strategy, tactical decisions are taken more rigorously and intentionally;
2. Inconsistent minimum actions of the various departments of the bank;
3. In the current activities, managers have the opportunity to separate the main problems and tasks from the secondary ones. Otherwise, there is an irrational variation in actions and approaches, which leads to the dispersal of bank resources;
4. Employees work more consistently in areas that are defined in the bank's strategy;
5. The image of the bank is strengthened in the eyes of its clients and potential partners.
In order to determine the approaches to the anti-crisis strategy, it is advisable to take into account that anti-crisis management is a special type of management, characterized by specific conditions and technologies. Differences between management in stable and crisis systems are shown in table 3.

Table 3

Differences between stable system management and anti-crisis management

Comparable criteria	Managing in stable systems	Anti-crisis management
Purposes	Increasing efficiency	Minimizing the negative effects of the crisis
Basic Restrictions	Resources	Temporary resource
Environmental features	Favorable	Non-favorable
Internal environment	Sable	The multitude of conflicts
Result	Increasing efficiency and viability	Switching to a stable state

Source: elaborated by the author

Under the influence of internationalization and globalization on the development of the integration of the Republic of Moldova into the world economic system and the intensification of the processes of concentration and competition in the banking system, together with the need to overcome the negative consequences of the global crisis, the development of effective anti-crisis measures is particularly relevant, as well as organizing the rational interaction of the banking institutions in order to maintain financial stability and gain growth prospects.

The efficiency of the crisis management of the financial stability of the banks is characterized by the degree of achievement of the mitigation and localization objectives of the crisis in comparison with the financial resources spent for it. It is difficult to evaluate such efficiency on the basis of calculation indicators, but it can be determined by analyzing and evaluating the overall management of the bank, its success or its mistakes. In our opinion, these problems can be solved by introducing an anti-crisis management system of financial stability of banks.

From our point of view, the anti-crisis management of the financial stability of the banks represents their ability to transform, distribute and use the resources (personnel, financial resources, assets, equipment and information technologies) as efficiently and with minimal risk as possible to - it fulfills its obligations under acceptable risk conditions and withstands the onset of the crisis.

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THE EVOLUTION OF ROMANIA'S EXTERNAL DEBT

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Abstract:

If at the moment of zero transition from dictatorship to democracy the level of external debt was zero immediately after 1990, a real carousel of indebtedness begins. The paper aims to study the trajectory and structure of Romania external indebtedness in the last decade, together with the factors from the internal and external environment that influenced this evolution and possible future evolutions of it, by analyzing statistical data.

Keywords*: public debt, external debt trends*

JEL Classification*: H62, H63, E62*

Introduction

Both developed and developing countries use domestic and foreign credit, as they offer the opportunity to spend now and pay later, when the investment begins to generate profits. States resort to external borrowing when domestic savings are insufficient to finance both domestic consumption and investment. Loans allow imports to exceed exports, finance the budget deficit and allow investments to outweigh savings.

Any developing country, but especially poor countries, which are in the process of transitioning from a centralized and market economy, can develop and build a competitive economy and a modern system of socio-economic infrastructure using international funding, which generates external debt.

Debtor countries need to use external borrowing for the development and modernization of the economy and service infrastructure and not for consumption, because in this way it is possible to achieve economic growth, including stimulating exports, thus creating the necessary resources in foreign currency to be able to cover external public debts. Stimulating exports is one of the most important strategies in promoting external economic relations, as export earnings are one of the main sources that can be used to repay external debt.

Globally, external debt creates a number of problems, leading to external debt crises. To pay interest and loan rates, countries sacrifice investment in education or health, economic growth or raising living standards. Thus, it is difficult for developing countries to reduce poverty and, at the same time, to enter a trend of progressive development. External lending allows the economy to invest and consume beyond the limit of domestic financing capacity. Domestic investments are financed from domestic resources and other resources transferred from countries with a capital surplus. External lending can trigger economic growth by financing a larger volume of investment. If loans are used to finance non-performing activities or to offset capital outflows, they make no contribution to economic growth, and they could even put pressure on budgets at the time of repayment.

The issue of public debt has been brought to the attention of the public by many researchers in economics in recent years.

In the study "Fiscal fatigue, fiscal space and debt sustainability in advanced economies" from 2011 , Ghosh, Kim, Mendoza, Ostry and Qureshi, demonstrate that the combination resulting from reduced budget revenues and increased expenditures have increased public debt and

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primary deficits in most developed countries, and their funding needs are in an upward trend so that it comes to the ability to pay the debts.

Also, Reinhart and Rogoff (2011), pointed out that especially in the last decades developed countries have the highest degrees of indebtedness for the period after the Second World War. They said that a combination of high debt trending upward makes decade after the financial crisis to be described as a "decade of debt".

Krugman (1989), pointed that looking through the relationship between the debt of a country and the ability to repay in the event of debt burden, the benefits of the credit will go to creditors and not the country borrowed.

Zaman and Georgescu in “Romania's external debt sustainability under crisis circumstances” (2010) , emphasize that the over-indebtedness of many states and the financial crisis of 2008 are mainly due to excessive use of financial instruments, the rupture between the nominal and real economy in the permissive and uncontrolled framework provided by the market economy.

Problem Description

Even if Romania is among the countries with a low level of public debt as a share in GDP compared to countries inside and outside the European Union , the trend of increasing public debt at the international level was also manifested in Romania , having as a benchmark three key moments, year 1990 transition from centralized economy to market economy, year 2007 when Romania joined the European Union allowed obtaining loans on favourable terms and 2008 year of onset of the financial and economic crisis.

Each successive government in the country's leadership has tried to obtain external loans not so much for investments in deficient infrastructure as for the correction of internal imbalances but sometimes also for electoral purposes, the value of the external debt constantly increasing from year to year.

The objectives of the paper

The aim of the paper is to follow the trend of certain indicators but also their current stage, to highlight whether changing the structure and values of external debt components is favorable for future economic development, whether or not it can become burdensome, what access Romania has to external loans and if we can borrow still at the same pace. The paper analyze the structure of external public debt, and the trends of the various components of debt in terms of sustainability for the period after the onset of the financial crisis.

Methodology and data sources

To conduct research on the problem of external debt, the paper analyzes data using comparative, analytical, descriptive method and the use of a set of information sources, collecting financial data in databases, based on monthly or annual reports, consolidated statistical data provided by the National Bank of Romania and the Ministry of Finance. The study was completed by formulating conclusions related to this financial phenomenon.

The characteristics of Romania's public debt

-Total public debt has increased steadily in the last ten years, reaching at the end of 2019 a value of approximately 449 billion lei, which represents 42.4% of GDP for 2019, in the last two years public debt increasing in the same rhythm with the gross domestic product. Of the total public debt, a percentage of over 96% is represented by the government public debt, the local public debt representing the difference up to 100%, i.e. less than 5% of the total public debt for the whole period considered.

- In the previous year, 95.7% of government public debt is direct public debt, with guaranteed public debt having a downward trend as a percentage from about 8% at the beginning of the period to 4.5% in 2019 (Annex Table 2)

- At the level of 2019, 92.2% of the funds as sources of loans are provided by private banks, and 7.8% are multilateral loans. It should be noted that the structure has changed permanently in the last 10 years in favour of loans from private banks (Annex Table 3)

-The instruments through which funds are attracted are bonds in lei and euro (42%) and euro bonds (32%) and loans. Loans have a lower share than in previous years, the motivation being the difficult conditions imposed in order to be contracted (Annex Table 4)

- The amounts attracted are in lei 56.7% and in euro 36.1%, usd 6.7%, the tendency being that the amounts attracted in lei to increase as a share and those in euro to decrease. Amounts drawn in currencies other than the euro are negligible, mainly due to the low volume of trade with countries outside the European Union. (Annex Table 5)

- The structure after maturity in 2019 of government public debt is thus 14% short term, 23% medium term and 63% long term. The dynamic growth noted in the share of long-term government debt against government debt share short-term, phased in fact favourable for long-term debt makes the work u l debt to be predictable and easier to cover. (Annex Table 6)

Romania's external debt characteristics

- As a value, the total external debt of Romania is characterized by a first period of increase 2008-2012, the next 3 years decrease of its value, so that in the last 4 years the increase of its value is registered. As a share in GDP, the percentage has decreased steadily since 2011 given the faster growth of GDP. In 2019, the psychological value of 100 billion euro was exceeded, the ratio between long-term external debt and total external debt decreasing from 80% in 2013 to about 70% in 2019, the ratio of short-term debt to total debt obviously varying from 20 % to 30% within the specified range.

- Direct public debt increased as a percentage of long-term external debt from 17% in 2008 to 53% in 2019 and a value of 73.6 billion euro. At the same time, the share of private debt in long-term external debt decreased from 69% to 44% in 2019 and a value of 32 billion euro.

- Public guaranteed debt decreased steadily in both value and share of long-term external debt from 1.7 billion euro (and 6.5% in long-term external debt) in 2008 to 0.3 billion euro (and 0.4% in long-term external debt), becoming insignificant in 2019.

- Regarding the structure of creditors for long-term loans - direct public debt there are two things: firstly, the fact that most of the amounts borrowed came from two sources, namely financial loans from financial institutions and bond issues, the total amounts thus attracted meaning 80% in 2008 and 99% in 2019 over the other I get sources with minor contributions. Secondly it all main sources of funds in 2008 are financial loans from multilateral institutions (51.8% of total funds) whose share will rise to 72% in 2012 and then to decline steadily to 19% in 2019, when most of the funds are insured through the issuance of 80.6% bonds, their share constantly increasing since 2010, from 2014 ahead of financial loans from multilateral institutions.

- Public unsecured private debt accounted for the majority (over 90%) of funds attracted in the form of financial loans from various sources, the difference of up to 99% consisting of financial loans obtained from multilateral institutions, portfolio investments and financing lines being less of 1%.

Direct public debt, guaranteed public debt and private debt, (as a percentage of long-term external debt)

Given the different evolutions of public and private debt following the crisis (private debt has been in a downward trend since 2009 and public debt is on an upward trend) and their weights in long-term external debt have changed if at the beginning public loans had the majority share in the period. In recent years, public loans have the majority share. If we take into account the fact that

private loans are made to support imports and public loans to support investment expenditures and salary and pension increases, we can say that the structure of public debt has improved in recent years. (see Annex - Table 9)

Short and long term debt service

The long-term external debt service was on an upward trend from 2008 to 2013 and then this trend was reversed, with peak payments recorded in 2013, 2014 and 2015, (and as a result of the return of funds received by the IMF).

The short-term external debt service did not follow a dynamic, namely the high values of the last 4 years with the record value registered in 2019 of 50.7 billion euro. (see Annex - Table 10)

International reserves and exports

It is noted that although Romania has gone through a difficult period after 2008 due to the financial crisis foreign exchange reserves increased continuously from 2008 until 2011 and then to remain around 32 billion euro with small annual variations. Romania's total foreign exchange reserves had several variations from 28 billion euro in 2008 to a maximum of 37.2 billion euro in 2011 so that in the next 4 years Romania has total reserves of about 35.5 billion euro, in the last 4 years they have been around the amount of 37 billion Euro

For the analyzed period, the exports experienced a positive dynamic except for 2009 when due to the economic crisis there was a second year of reduction of GDP and exports. (see Annex Table 11)

Solvency indicators

Given the fact that the external debt service has been on a declining trend in recent years, exports have increased and the foreign exchange reserve has had a small variation the liquidity and solvency indicators analyzed show an improvement in their situation in recent years. Thus, in the period 2009-2019, the total external debt related to exports and the long-term external debt related to exports had a downward trend, except for the period 2008-2009 as a result of the financial crisis. The long-term external debt service relative to GDP and the external debt service related to exports due to a peak of payments in 2013, register a decreasing trend in the next 6 years (2014-2019) (see Annex - Table 12)

Characteristics of the external debt during the analyzed period are the following:

- Since 2007 after Romania's accession to the European Union, due to the lack of internal capital and the fact that the inclusion in the EU gave credibility to Romania and thus our country had advantageous credit conditions, Total external debt increased extremely quickly reaching 76% of GDP, but in the following years due to economic growth, increased exports and decreased budget expenditures, debt total foreign exchange reached 48% of GDP in 2019.

- If until 2013, most of the medium and long-term external direct public debt were financial loans from multilateral institutions, since 2014 the share of these funds in long-term external direct public debt has decreased in favour of bonds, which have become the majority, institutional creditors being replaced by private creditors this having a negative impact on the Romanian economy, because loans from multilateral institutions have certain advantages, instead of repaying existing external debt, they "roll" in more difficult conditions lending. This proves the need for an external debt repayment strategy, in line with the reorganization of the national economy and economic reforms.

- The direct external public debt increased almost constantly in the analyzed period, with the strongest increase in the first 4 years, when Romania took a loan of almost 20 billion euros from the IMF, to compensate for the effects of the financial crisis. The funds were intended for domestic financing, because the economic and financial crisis increased the distrust of investors, the difficulty and the price of loans increasing rapidly immediately after the onset of the crisis.

- The external debt and its components started to decrease, starting with 2013 a trend that continued in the next two years for the total external debt, and throughout the period 2013-2018, for the medium and long term external debt. In 2019 there are again increases in total external debt, direct public debt and private debt

- The medium and long term component forms most of Romania's total external debt, which shows a structure favourable to the sustainable development of the national economy, because the debt payment is distributed over a long period of time, and thus does not unbalance the state budget.

- Medium and long-term loans were used to offset the current account deficit until 2011, with payment starting in 2011.

- Increasing the value of external debt generates risks at the microeconomic level, especially in the banking system, as well as macroeconomic implications for the sustainability of external debt. And on the other hand, it makes it more difficult to get new loans at a higher cost.

- Private external debt has grown rapidly since 2006 over the next three years, but then declined in the following years amid liquidity shortages, economic downturn, creditors' risk aversion, the financial crisis and its effects. a positive effect on the sustainability of external debt. When they had the opportunity, private sector firms borrowed from foreign markets given the lower costs than the domestic market. This has increased dependence on external financial markets, in conditions of risk and uncertainty for both debtors and creditors.

Economic and financial situation at the end of 2019

Even if the indicators of our country's external indebtedness have had a favourable trend in the last 3 years, their evolutions in the previous period 2009-2013 made Romania's image at the level of international credit markets depreciate, which led to the change in negative meaning of the conditions for contracting external loans.

The international rating agencies, Standard & Poor's, Moody's and Fitch, gave Romania the "BBB-" rating, which is the lowest level of "investment grade", i.e. recommended for foreign investors; The risk is that Romania being at the lowest level can always be degraded to the next non-investment grade level.

The cost at which Romania borrows is the highest in the EU, higher than the cost of loans from Bulgaria (which in previous years had slower growth rates than the rate of Romania), or the cost of loans from countries in the "PIGS" group, namely: Portugal, Greece, Italy, Spain) countries at high risk of default.

At the end of 2019, Romania’s economy was characterized by:

- High inflation rate (highest in the EU);

- Large budget deficit (the largest budget deficit in the EU);

- Large current account deficit (the largest deficit in the EU);

- Unstable political environment;

- Inconsistency of economic policies, with changes in legislation;

- Poor infrastructure;

- Labor force not adapted to the requirements of the economy (as structure and necessary), etc.

The main risk factors that can lead to a decrease in the country's rating are: economic decline, rising fiscal deficits, resulting in increased debt-to-GDP ratio, deteriorating balance of payments.

Some international comparisons:

- Romania registered a permanent budget deficit, in the last year being the largest in the EU - 4.3%, and in 2018 2.9% - the second budget deficit after Cyprus, while Bulgaria, Czech Republic, Portugal, Greece, Ireland , Germany had budget surpluses.

- Romania's public debt as a percentage of GDP in 2019 is much lower than the EU average of 77.8%. However, Eastern European countries have all values below this average, so Hungary 66%, Poland 46%, Czech Republic 30%, Bulgaria 20%;

- Romania's trade deficit was 17.2 billion euro in 2019, 14.8 billion euro in 2018, 12.2 in 2017, 9.3 billion euro in 2016, the trend being an increasing one;

With regard to external debt, even though the critical period in the years following the onset of the financial crisis has passed, there are some worrying developments. The threshold of 100 billion euro has been exceeded amid increased budget spending. The direct public debt at the end of 2019 is the highest ever recorded, 39.1 billion euro.

At the same time, the short-term external debt is at the highest value ever recorded, 32.2 billion euro. We must also mention the short-term external debt service, which recorded a record value in 2019 - 50 billion euro, in 2018 - 46.7 billion euro, in 2017 this indicator was 41.5 billion euro, and in in 2016, its record value was 49.4 billion euro, although in previous years it had remained between 30 and 36 billion euro. It should be borne in mind that short-term debt is mainly incurred by private companies which use financial credit for certain imports.

Looking to the future, unpredictable events and global imbalances can hinder sustainable macroeconomic recovery, threatening the country's financial stability.

The return to recession of some advanced EU countries in 2019, and the global economic crisis due to the Covid 2019 pandemic have a negative impact on Romanian exports and economy and implicitly on the sustainability of external debt.

Increased financing needs due to SARS Cov 2 virus (investment in hospital infrastructure, unemployment costs, professional conversion costs, household income support costs, spending on economic recovery, etc.), high levels of external debt and of external debt service, persistence of economic vulnerabilities, lack of export diversification, low absorption of European structural funds that could partially cover external deficits, high exposure to changes in interest rates on international capital markets, are vulnerabilities that threaten the sustainability of external debt. If we take into account that the pandemic has made the need for financing of all countries increase, it means that access to capital is restricted and is done at increasing costs.

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ANNEX

Table 1. Total public debt, government public debt and local public debt

Indicator / Year	**009**	**010**	**011**	**012**	**013**	**014**	**015**	**016**	**017**	**018**	**019**
GDP (mil. RON)	26,345	29,624	62,062	95,367	37,456	68,590	12,588	65,135	57,896	52,397	,059,803
Public Debt	47,329.0	94,459.2	23,268.0	40,842.6	67,150.9	95,655.5	15,933.7	39,080.2	68,448.9	00,923.0	48,948.5
Percentage in GDP (%)	8.0	6.7	9.7	0.5	1.9	4.2	4.3	4.3	2.9	2.1	2.4
Annual growth rate (%)		2.0%	4.8%	.9%	0.9%	0.7%	.9%	.3%	.7%	.8%	2.0%
Government public debt	36,493.8	82,510.3	10,388.6	26,841.9	52,179.8	80,763.8	99,142.6	23,039.3	53,015.9	84,965.0	32,481.5
Percentage in GDP (%)	5.9	4.5	7.4	8.1	9.6	2.0	2.0	2.2	1.1	0.4	0.8
Annual growth rate (%)		3.7	5.3	.8	1.2	1.3	.5	.0	.3	.1	2.3
Percentage in Public debt (%)	2.6	3.9	4.2	4.2	4.4	5.0	4.7	5.3	5.8	6.0	6.3
Local public debt	0,835.2	1,948.9	2,879.4	4,000.7	4,971.1	4,891.7	6,791.1	6,040.9	5,433.0	5,958.0	6,467.0
Percentage in GDP (%)	.1	.3	.3	.4	.3	.2	.4	.1	.8	.7	.6
Annual growth rate (%)		0.3	.8	.7	.9	0.	2.8	4.5	3.8	.4	.2

Table 2. Government public debt, structure by type

Indicator / Year	009	010	011	012	013	014	015	016	017	018	019
Structure by type	36,493.8	82,510.3	10,388.6	26,841.9	52,179.8	80,763.8	99,142.6	23,039.3	53,015.9	84,965.0	32,481.5
- direct debt	26,571.7	67,632.5	99,284.6	13,731.0	37,972.0	65,448.5	83,579.5	06,440.5	35,543.2	66,933.4	13,853.7
Percentage in Gov. Public debt (%)	2.7	1.8	4.7	4.2	4.4	4.5	4.8	4.9	5.1	5.3	5.7
- secured debt	,922.1	4,877.8	1,104.0	3,110.9	4,207.8	5,315.3	5,563.1	6,598.8	7,472.7	8,031.6	8,627.8
Percentage in Gov. Public debt (%)	.8	.9	.6	.1	.0	.8	.5	.4	.2	.9	.5

Table 3. Government public debt, structure by creditors

Indicator / Year	009	010	011	012	013	014	015	016	017	018	019
Str. by creditors	36,493.8	82,510.3	10,388.6	26,841.9	52,179.8	80,763.8	99,142.6	23,039.3	53,015.9	84,965.0	32,481.5
- Multilateral	4,634.1	2,719.3	3,551.4	5,786.4	5,415.4	0,926.1	5,094.5	2,539.1	7,801.5	9,764.8	3,779.3
Percentage in Gov. Public debt (%)	5.4	8.9	0.2	9.	5.9	1.7	8.4	6.3	3.5	0.3	.8
- Bilateral	72.4	87.1	03.8	93.2	95.1	84.2	71.9	66.7	44.7	9.1	5.1
Percentage in Gov. Public debt (%)	.2	.2	.1	.1	.1	.1	.1	.1	.0	.0	.0
- Private banks	01,587.3	29,503.9	46,633.4	60,862.3	86,569.3	19,653.5	43,876.2	70,333.5	05,069.7	45,121.1	98,627.1
Percentage in Gov. Public debt (%)	4.4	1.0	9.7	0.9	4.0	8.2	1.5	3.7	6.4	9.6	2.2

Table 4. Government public debt, structure by instrument

Indicator / Year	009	010	011	012	013	014	015	016	017	018	019
***Str.* by instrument**	36,493.8	82,510.3	10,388.6	26,841.9	52,179.8	80,763.8	99,142.6	23,039.3	53,015.9	84,965.0	32,481.5
- Treasury certificates (Lei and Eur)	3,432.2	2,659.2	3,743.8	7,262.6	0,298.1	0,793.4	,176.1	1,988.5	,428.6	,997.0	,660.4
Percentage in Gov. Public debt (%)	7.2	7.9	6.0	2.0	.1	.8	.1	.7	.4	.0	.4
- Cash management tools	.0	.0	,200.0	.0	.0	.0	.0	.0	.0	.0	.0
Percentage in Gov. Public debt (%)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Bonds (Lei and Eur)	3,146.2	4,021.4	0,110.0	2,929.1	8,137.6	02,920.4	09,073.3	16,630.0	31,343.1	58,393.7	82,760.1
Percentage in Gov. Public debt (%)	7.0	8.6	3.8	2.1	8.9	6.7	6.5	6.1	7.2	1.1	2.3
Bonds for the population Treasury Program	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	,240.5
Percentage in Gov. Public debt (%)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
- Eurobonds	,093.6	0,497.8	7,062.8	1,912.3	5,841.9	7,140.9	4,749.9	3,778.3	5,766.3	11,320.4	31,382.6
Percentage in Gov. Public debt (%)	.7	.8	.1	4.1	8.2	3.9	5.0	5.9	7.1	8.9	0.4
- Financial leasing	9.2	3.0	.3	.0	.0	.0	.0	.0	.0	.0	.0
Percentage in Gov. Public debt (%)	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
- Loans	2,608.2	3,832.2	5,418.5	8,572.3	8,746.4	4,989.5	0,624.1	9,011.2	5,043.5	7,407.0	2,084.5
Percentage in Gov. Public debt (%)	8.5	0.5	5.8	4.6	1.2	6.7	3.6	1.4	8.4	4.9	2.0
- **Loans from CGTS availabilities**	8,134.4	1,436.7	1,845.1	6,165.6	9,155.8	4,919.6	5,519.2	1,631.3	2,434.4	3,846.9	9,353.4
Percentage in Gov. Public debt (%)	0.6	7.2	5.1	.1	.6	.9	1.9	2.9	4.9	4.0	3.7

Table 5. Government public debt structure by currency

Indicator / Year	009	010	011	012	013	014	015	016	017	018	019
***Str.* by currency**	36,493.8	82,510.3	10,388.6	26,841.9	52,179.8	80,763.8	99,142.6	23,039.3	53,015.9	84,965.0	32,481.5
- RON	4,302.0	2,628.7	01,241.2	9,439.1	11,762.1	26,434.7	48,073.5	70,139.4	92,055.0	14,671.6	45,191.6
Percentage in Gov. Public debt (%)	7.1	5.3	8.1	3.8	4.3	5.0	9.5	2.7	4.4	5.8	6.7
- USD	,629.1	,458.2	,091.7	2,661.8	6,269.2	4,796.2	6,858.9	6,930.6	3,667.6	8,225.3	9,134.4
Percentage in Gov. Public debt (%)	.3	.6	.9	.6	.5	.8	.0	.3	.7	.3	.7
- EURO	6,646.1	8,118.8	9,349.8	01,873.7	16,459.1	26,304.5	21,707.9	23,498.2	35,165.7	40,026.4	56,179.1
Percentage in Gov. Public debt (%)	1.5	2.8	2.5	4.9	6.2	5.0	0.7	8.2	8.3	6.4	6.1
- SDR	,984.7	,645.9	,977.0	,522.3	,047.7	43.6	4.3	.6	.0	.0	.0
Percentage in Gov. Public debt (%)	.9	.3	.7	.2	.0	.3	.0	.0	.0	.0	.0
- CHF	35.5	80.0	38.2	01.2	2.3	5.0	1.9	1.0	7.7	.2	.0
Percentage in Gov. Public debt (%)	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0
- CAD	23.2	06.8	50.8	00.4	67.9	21.8	24.1	83.6	05.3	29.0	78.7
Percentage in Gov. Public debt (%)	.5	.4	.4	.3	.2	.2	.1	.1	.1	.1	.0
- JPY	,904.9	,542.6	,840.0	,543.4	,991.5	,898.0	,012.1	,046.9	,804.6	,806.5	,797.7
Percentage in Gov. Public debt (%)	.4	.4	.3	.1	.	.7	.7	.6	.5	.5	.4

Table 6. Government public debt structure by maturity

Indicator / An	009	010	011	012	013	014	015	016	017	018	019
***Str.* by maturity**	36,493.8	82,510.3	10,388.6	26,841.9	52,179.8	80,763.8	99,142.6	23,039.3	53,015.9	84,965.0	32,481.5
- Short t.	1,566.6	4,095.9	7,788.9	3,428.3	9,453.9	5,713.0	4,695.3	3,619.9	0,863.0	7,843.9	1,013.9
Percentage in Gov. Public debt (%)	7.8	5.1	2.2	9.1	1.7	2.7	4.9	6.6	7.2	5.0	4.1
-Medium t.	7,096.1	2,792.2	5,152.1	7,365.7	4,759.7	3,930.1	4,902.4	2,990.3	2,195.3	6,846.3	8,283.4
Percentage in Gov. Public debt (%)	9.9	3.4	6.2	4.1	7.6	9.9	5.0	9.5	0.5	2.6	2.7
- Long t.	7,831.1	5,622.1	7,447.6	06,047.9	27,966.2	61,120.7	79,544.9	06,429.1	19,957.6	40,274.8	73,184.2
Percentage in Gov. Public debt (%)	2.4	1.4	1.6	6.7	0.7	7.4	0.0	3.9	2.3	2.4	3.2

Table 7. Total external debt, long-term external debt and short-term external debt

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
GDP (mil euro)	139700	118300	124100	131500	133900	144700	150800	159000	170400	187800	202000	221748
Annual growth rate (%)		-15.32	4.90	5.96	1.83	8.07	4.22	5.44	7.17	10.21	7.56	9.78
Total external debt (mil.euro)	72467	82304	93624	99926	100857	98069	94744	92069	92910	97361	99841	105873
Percentage in GDP (%)	51.87	69.57	75.44	75.99	75.32	67.77	62.83	57.90	54.52	51.84	49.43	47.74
Annual growth rate (%)		13.57	13.7	6.73	0.93	-2.76	-3.39	-2.82	0.91	4.79	2.55	6.04
1. Long-term external debt (mil euro)	51874.63	66714.14	74075.03	77131.43	79936.24	78859.70	75829.30	71424.50	69644.70	68520.20	68286.40	73646
Percentage in total external debt (%)	71.58	81.06	79.12	77.19	79.26	80.41	80.04	77.58	74.96	70.38	68.40	69.56
Percentage in GDP (%)	37.13	56.39	59.69	58.66	59.70	54.50	50.28	44.92	40.87	36.49	33.81	33.21
Annual growth rate (%)		28.61%	11.03%	4.13%	3.64%	-1.35%	-3.84%	-5.81%	-2.49%	-1.61%	-0.34%	7.85%
2. Short-term external debt (mil euro)	20592.40	15589.40	19548.90	22794.70	20921.10	19209.20	18915.00	20644.00	23265.10	28840.50	31554.40	32226.8
Percentage in total external debt (%)	28.42%	18.94	20.88	22.81	20.74	19.59	19.96	22.42	25.04	29.62	31.60	30.44
Annual growth rate (%)		-24	25	17	-8	-8	-2	9	13	24	9	2

Table 8. External debt, components

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1. Long-term external debt (mil euro)	51874.63	66714.14	74075.03	77131.43	79936.24	78859.70	75829.30	71424.50	69644.70	68520.20	68286.40	73646
1.1. Direct public debt (mil euro)	9053.60	12009.10	16184.40	19642.80	23782.00	29069.00	31754.20	30940.80	31752.10	33117.50	34498.40	39192.1
Percentage Long-term external debt (%)	17.45	18.00	21.85	25.47	29.75	36.86	41.88	43.32	45.59	48.33	50.52	53.22
Percentage in GDP (%)	6.48	10.15	13.04	14.94	17.76	20.09	21.06	19.46	18.63	17.63	17.08	17.67
1.2. Public guaranteed debt (mil euro)	1721.00	1517.20	1708.20	1465.80	1423.60	1224.50	1078.30	668.90	547.10	432.20	351.40	285.1
Percentage Long-term external debt (%)	3.32	2.27	2.31	1.90	1.78	1.55	1.42	0.94	0.79	0.63	0.51	0.39
Percentage in GDP (%)	1.23	1.28	1.38	1.11	1.06	0.85	0.72	0.42	0.32	0.23	0.17	0.13
1.3. Private debt (mil euro)	35549.40	39187.00	37733.20	36133.30	37182.90	36303.20	34311.60	33497.80	32453.30	31330.90	30807.50	32203.2
Percentage Long-term external debt (%)	68.53	58.74	50.94	46.85	46.52	46.04	45.25	46.90	46.60	45.73	45.12	43.73
Percentage in GDP (%)	25.45	33.13	30.41	27.48	27.77	25.09	22.75	21.07	19.05	16.68	15.25	14.52
1.4. Depozite pe termen lung ale nerezidenţilor	5467.30	7242.50	8227.70	8489.90	7745.00	6452.70	6090.50	4943.10	3637.40	2468.60	1432.80	749.4
Percentage Long-term external debt (%)	10.54	10.86	11.11	11.01	9.69	8.18	8.03	6.92	5.22	3.60	2.10	1.02
1.5. Imprumuturi de la FMI	0.00	5685.50	9082.60	10231.10	8654.50	4708.40	1421.30	122.20	0.00	0.00	0.00	0.00
Percentage Long-term external debt (%)	0.00	8.52	12.26	13.26	10.83	5.97	1.87	0.17	0.00	0.00	0.00	0.00
1.6. DST de la FMI	83.33	1072.84	1138.93	1168.53	1148.24	1101.90	1173.30	1251.60	1254.90	1170.90	1196.30	1216.1
Percentage Long-term external debt (%)	0.16	1.61	1.54	1.51	1.44	1.40	1.55	1.75	1.80	1.71	1.75	1.65

Table 9. Direct public debt, public guaranteed debt and private debt, as a percentage of long-term external debt

An	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1.1. Direct public debt (%)	17.5	18.0	21.8	25.5	29.8	36.9	41.9	43.3	45.6	48.3	50.5	53.2
1.2. Public guaranteed debt (%)	3.3	2.3	2.3	1.9	1.8	1.6	1.4	0.9	0.8	0.6	0.5	0.4
1.3. Private debt (%)	68.5	58.7	50.9	46.8	46.5	46.0	45.2	46.9	46.6	45.7	45.1	43.7

Table 10. Short and long term debt service (millions of euros)

An	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Long term debt service	13056.1	12272.2	14696.4	15138.8	18663.4	26285.7	24103.1	25285.4	21041.8	19440.2	19131.8	16736.6
Annual growth rate (%)		-6.00	19.75	3.01	23.28	40.84	-8.30	4.91	-16.78	-7.61	-1.59	-12.52
Short term debt service	32519.5	36765.7	29078.9	31093.6	35604.5	33675.1	33915.6	32285.0	49393.9	41450.9	46688.4	50730.8

Table 11. International reserves and exports

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total international reserves (mil euro)	28269.9	30858.6	35950.7	37251.8	35413.0	35434.5	35505.7	35485.1	37905.4	37106.7	36800.2	37450.0
International currency reserves (mil euro)	26133.9	27321.5	31638.0	32737.3	31091.9	32497.0	32199.8	32227.0	34241.6	33494.5	33064.7	32926.7
Percentage currency reserves in total reserves (%)	92.4	88.5	88.0	87.9	87.8	91.7	90.7	90.8	90.3	90.3	89.8	87.9
Long-term debt service / Currency reserves (%)	50.0	44.9	46.5	46.2	60.0	80.9	74.9	78.5	61.5	58.0	57.9	50.8
Export (FOB)	42479	36148	43989	52528	53472	57308	61908	65742	70180	77880	85612	89385

Table 12. Solvency indicators

An	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total Ext. Debt / Export (%)	170.6	227.7	212.8	190.2	188.6	171.1	153.0	140.0	132.4	125.0	116.6	118.4
L.T. Ext. Debt / Export(%)	122.1	184.6	168.4	146.8	149.5	137.6	122.5	108.6	99.2	88.0	79.8	82.4
Currency reserves / L.T. Ext. Debt. (%)	50.4	41.0	42.7	42.4	38.9	41.2	42.5	45.1	49.2	48.9	48.4	44.7
Long term debt service / GDP (%)	9.3	10.4	11.8	11.5	13.9	18.2	16.0	15.9	12.3	10.4	9.5	7.5
Long term debt service / Export (%)	30.7	33.9	33.4	28.8	34.9	45.9	38.9	38.5	30.0	25.0	22.3	18.7
Long term debt service / Currency reserves (%)	50.0	44.9	46.5	46.2	60.0	80.9	74.9	78.5	61.5	58.0	57.9	50.8

Table 13. Long-term external debt, creditors

An	008	009	010	011	012	013	014	015	016	017	018	019
Long-term external debt	1874.6	6714.1	4075.0	7131.4	9936.2	8859.7	5829.3	1424.5	9644.7	8520.2	8286.4	3646
Direct public debt	053.6	2009.1	6184.4	9642.8	3782.0	9069.0	1754.2	0940.8	1752.1	3117.5	4498.4	9192.1
Multilateral institutions (financial loans)	687.0	758.7	1576.9	4143.0	4300.6	4150.0	3269.2	2275.2	1748.3	0505.8	949.0	492.4
Percentage in D.p.d. (%)	1.77	4.61	1.53	2.00	0.13	8.68	1.79	9.67	7.00	1.72	5.94	9.12
Bilateral Institute (financial loans)	5.0	6.2	0.8	7.1	3.6	7.8	4.8	1.8	0.7	6.3	6.4	5.2
Percentage in D.p.d. (%)	.72	.47	.38	.24	.18	.13	.11	.10	.10	.08	.05	.04
Bond issues	640.0	773.3	898.9	297.7	458.0	4052.6	7805.4	8137.6	9600.2	2366.7	5433.1	1609.6
Percentage in D.p.d. (%)	9.16	3.09	7.91	1.88	5.56	8.34	6.07	8.62	1.73	7.54	3.72	0.65
Banks	89.2	11.3	64.2	06.8	85.2	50.0	25.7	22.0	24.6	26.2	6.6	4.3
Percentage in D.p.d. (%)	.61	.76	.72	.11	.88	.89	.34	.04	.71	.38	.22	.14
Others	8.8	09.5	83.6	48.2	94.6	78.6	19.1	74.2	48.3	2.5	3.0	0.7
Percentage in D.p.d. (%)	.65	.08	.46	.77	.24	.96	.69	.56	.47	.28	.07	.05
Public guaranteed debt	721.0	517.2	708.2	465.8	423.6	224.5	078.3	68.9	47.1	32.2	51.4	85.1
Multilateral institutions (financial loans)	35.9	36.4	31.8	19.6	88.7	16.2	33.7	56.0	84.8	22.4	80.0	44.2
Percentage in P.g.d. (%)	6.95	1.95	4.55	5.91	2.43	6.66	8.04	3.22	2.06	1.46	1.22	0.58
Others	085.2	80.8	76.4	46.3	34.9	08.4	44.6	13.0	62.4	09.8	71.4	40.9
Percentage in P.g.d. (%)	3.06	8.05	5.45	4.09	7.57	3.35	1.96	6.79	7.96	8.54	8.78	9.42
Private debt	5549.4	9187.0	7733.2	6133.3	7182.9	6303.2	4311.6	3497.8	2453.3	1330.9	0807.5	2203.2
Multilateral institutions (financial loans)	170.3	559.6	383.1	144.0	027.4	917.0	848.3	261.6	887.3	020.7	282.1	266.2
Percentage in P.d. (%)	.29	.98	.32	.70	.14	.04	.30	.75	.82	.45	.41	.04
Portfolio investments	31.7	77.0	26.3	.7	18.3	69.3	17.3	84.2	65.6	83.8	12.4	11.3
Percentage in P.d. (%)	.65	.45	.33	.01	.59	.47	.63	.55	.51	.59	.36	.59
Financing lines	2.6	2.2	2.3	.4	.3	.2	.0	.0	.0	.0	.0	.0
Percentage in P.d. (%)	.04	.03	.03	.01	.01	.01	.00	.00	.00	.00	.00	.00
Other (commercial financial loans, etc.)	4134.7	7438.2	5211.5	2984.2	3934.8	3214.7	1246.0	1052.0	0400.4	9126.5	8413.0	9425.7
Percentage in P.d. (%)	6.02	5.54	3.32	1.28	1.26	1.49	1.07	2.70	3.67	2.96	2.23	1.38

THE FINANCIAL ANATOMY OF CURRENT PANDEMIC CRISIS

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Abstract:

The current crisis is the first in human history global pandemic cataclysm. The latter has caused colossal losses globally due to massive disease of population, efforts to counter the pandemic and consequences of isolation in the hope of avoiding contamination of healthy people. The analysis of pandemic crisis is complicated by the fact that it takes place in conditions of cyclical economic crises started in previous years. Financial aspects of pandemic crisis are different, such as stock market crashes, rising levels of indebtedness, fiscal problems, affecting investment, insurance and other segments of global financial market activity. The current crisis situation is highly likely to degenerate into a deep financial crisis. In order to alleviate the crisis, central authorities in different countries have taken respective complexes of measures, the effectiveness of which will be demonstrated over time.

Keywords: *pandemic crisis, economic crisis, financial crisis*

JEL classification: *F65, G01*

Introduction

In the opinion of many economists, “COVID-19 is more than a health crisis, with unprecedented socio-economic implications, and pandemic is disrupting every country it affects, with the power to generate devastating social, economic and political effects, which will leave deep scars." (*Pandemia...*, n.d.)

The world community is currently facing an unprecedented pandemic cataclysm. Human history has repeatedly experienced pandemic crises, but they have had a regional character, while the current one is the first with a truly global character.

After the rapid spread of infectious diseases called COVID-19, the global health care system received a catastrophic blow, with the number of sick people increasing. Of course, this process will also have important economic and financial consequences in the form of losses caused by the inability of a large number of patients to work, as well as increased costs for the maintenance of the medical system. On the other hand, isolation measures, unlike most countries, have led to significant bottlenecks in the operation of international trade and logistics systems, as well as the cessation of many economic activities.

Mario Arturo Ruiz Estrada is of the opinion that the entire world community is affected by the crisis in the form of uncontrolled economic decline due to the COVID-19 pandemic, because of the negative impact on economic processes, which directly affects the process of global GDP. (Estrada, 2020)

World Bank experts say that COVID-19 pandemic crisis "would represent the deepest recession since the Second World War, with the largest fraction of economies experiencing declines in per capita output since 1870”. (*COVID-19 to Plunge…*, n.d.)

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Economic analyzes of pandemic crisis largely overshadow its financial aspects, which are largely seen as signs of economic crisis. However, following significant financial risks, it is fully possible to trigger a deep financial crisis.

All this requires a wide range of measures to prevent it.

Description of the problem

The evolutionary model of global pandemic crisis is presented in Figure 1 as anatomy of current economic and financial crisis.

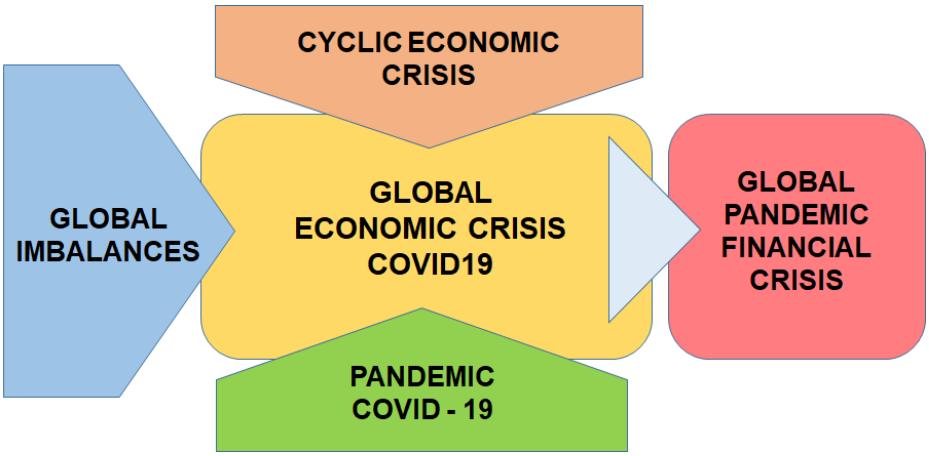

Figure 1. The anatomy of current economic and financial crisis

Source: *developed by the authors*

At present, there are controversies in the academic environment regarding the status of COVID-19 crisis:

- *The COVID-19 recession* expresses by a decrease in production, a reduction in investment, a temporary stagnation of business, being a phase of decline in economic activity and a temporary decline in global economic activity under the influence of the SARS virus pandemic CoV-2, its consequences, as well as measures to prevent its spread based, in large part, on isolation. (*COVID-19 recession*, n.d.)
- *The economic crisis COVID-19* can manifest itself as a period of economic decline, which is the result of influence of a complex of factors and which has its roots in cyclical economic crisis triggered in December 2018. (*Мировой*…, n.d.)
- The COVID-19 depression can manifest itself as a long-term economic collapse, as a result of the global pandemic, as a catalyst for economic and financial cataclysms, whose potential has been accumulated a few years ago. It can be characterized by following manifestations: significant increase in unemployment rate, credit crunch, major decline in industrial production and investment, price deflation, hyperinflation, numerous bank failures, significantly reduced trade, a highly volatile and unpredictable exchange rate (mainly with trend of devaluation), reduced demand for goods and services, increase of production costs, decrease of production volume, decrease of profit rate, reduction of living standard of population. (*The Next...*, n.d.)

As confirmation, experts from several international institutions have made different forecasts for the dynamics of Gross Domestic Product (GDP) worldwide, with GDP reduction forecasts ranging from 3% to 6% (*Congressional*…, n.d.), including: International Monetary Fund (- 4.9%); World Bank (-5.2%); Bloomberg (-3.7%).

According to experts from the Asian Development Bank, the global losses from the coronavirus pandemic will amount to between USD 5.8 trillion and USD 8.8 trillion. (*Coronavirus*…, n.d.)

By 2020, the World Trade Organization has forecast a reduction in world trade in the range from 13% to 32%. (*Trade*…, n.d.)

Given the specifics of crisis, analysts cannot guarantee a resumption of trade even in 2021, noting the dependence on duration of pandemic and effectiveness of measures taken.

The recession has led to a drop in the price of oil triggered by the 2020 war for Russia and Saudi Arabia, the collapse of tourism, the hospitality industry, the energy industry and a significant drop in consumer activity compared to the previous decade.

The COVID-19 pandemic recession has caused unusually large and rapid rises in unemployment in many countries.

One of the fundamental problems of COVID-19 crisis is that along with the negative impact of the pandemic is still the cyclical economic crisis triggered in December 2018.

As in the case of other economic cataclysms, the COVID-19 crisis has brought important disruptions to the functioning of international financial mechanisms.

Methodology and data sources

In order to conduct the research on current pandemic crisis, information from international financial institutions, official information sources, public institutions' reports, as well as opinions, results of analysis carried out by experts were studied. The study was completed by formulating the conclusions related to this financial phenomenon.

Results obtained

The COVID-19 pandemic crisis generated a complex of financial problems:

- *Instability of global financial market liquidity*. This is determined by the accentuation of the behavior of hot money, whose mobility was amplified during the pandemic. Partly this problem is complicated by the mobilization of free money on the market in the form of loans by central authorities in many countries to finance anti-crisis programs.

In addition, between February and March 2020, the global stock market crashed. In particular, the S & P500 Index decreased by 33.9% (*S7P500*…, n.d.), the EuroStoxx50 Index - by 38.23% (*EURO*…, n.d.) and the TOPIX Index - by 27.2% (*Tokyo*…, n.d.).

On the other hand, there has been an increase in demand for shelter assets. In particular, in 2020 world gold prices set the historical record of 2070 USD / ounce in August 2020 (*Gold...*, n.d.).

- *Disruptions in the international foreign exchange market*. The COVID19 pandemic, as well as the derived economic crisis, is spreading unevenly in the global economic space, which has caused important changes in the formation of foreign exchange rates of different countries.

Thus, in the period 10.05.2020-03.01.2021, the exchange rate of US Dollar against Euro decreased by 13.5%. (*Yahoo...*, n.d.). This process compromises the role of the US dollar as a reserve currency.

It was largely due to political and social instability in the US and the increased issuance of the US dollar. To reduce the impact of pandemic crisis, the additional issuance of US dollar is made through the purchase of Federal Reserve System of government bonds and commercial papers with mortgage backing. The volume of these transactions in 2020 amounted to approximately USD 4.3 trillion. (Trofimov, 2020)

Thus, are aggravated problems with general expression as Triffin Dilemma, which put it this way: “In order to provide central banks in other countries with the amount of dollars needed to form national foreign exchange reserves, it is necessary for the United States to have a constant balance of payments deficit. But a balance of payments deficit undermines confidence in USD and reduces its value as a reserve asset, so a balance of payments surplus is needed to increase confidence”.

The trend of continuous growth in the volume of international trade and services provided internationally requires a continuous increase in available liquidity, including in US dollars.

Thus, the volume of world trade increased from $5.2 trillion in 2000 to $19.5 trillion in 2018. (*Trends...*, n.d.)

➢ *Increasing global debt*. In the conditions of the pandemic crisis, the formation of the global debt bubble continued (Figures 2 and 3).

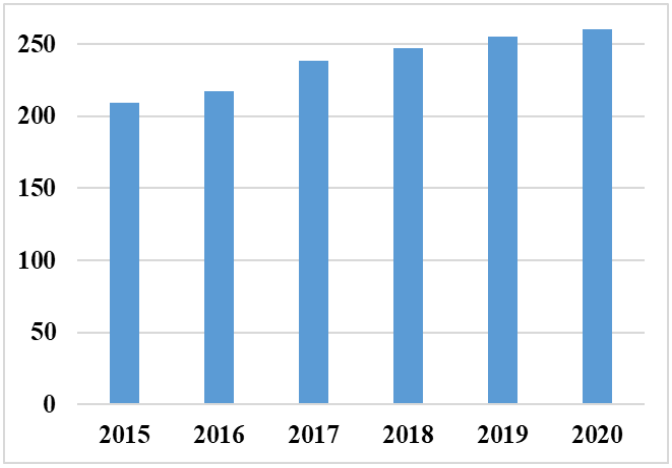

Figure 2. Global debt dynamics (trillions USD)
Source: (Luchian, Tepordei, 2020), (Amaro, 2020)

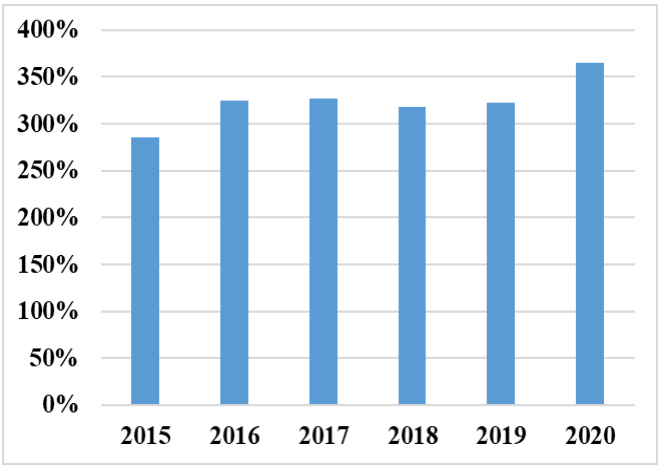

Figure 3. Dynamics of the ratio of global debt to global GDP (%)
Source: (Luchian, Tepordei, 2020), (Amaro, 2020)

The recessionary conditions caused by the pandemic determined the global debt to GDP to reach a new record of USD 272 trillion in the first three quarters of 2020 (increasing by USD 15 trillion). It is also expected to reach the level of USD 277 trillion by the end of the year. Thus, in the last 20 years the global debt has increased 3.2 times.
Thus, the forecasts of the global debt increase until 2030 to the level of 360 trillion USD are gradually coming true. (Aris, 2020)
In the structure of global debt in the third quarter of 2020, the debt of industrially developed countries had a share of 72.1%, amounting to USD 196 trillion. And the debt of developing countries had a share of 27.9%, reaching the level of USD 76 trillion. (Lu, 2020)
It is also significant the fact that during the years 2015-2020 the global debt in the global GDP by 79 pp, reaching the level of 365%.
The global public debt also had a tendency to increase as a share in GDP during the years 2015-2020 by 24 pp, reaching the level of 98%. (*Global public…*, n.d.)

Fiscal measures taken in countries around the world in the amount of USD 11.7 trillion contributed to this, which accounted for about 12% of global GDP. Government deficits accounted for 9% of global GDP in 2020. (Bacani, 2020)
In this context it should be mentioned that the COVID-19 crisis caused a new form of global imbalances of anti-crisis economic and financial measures. At the moment, the discrepancy between the industrially developed and the developing countries becomes evident in view of the economic-financial intervention of the central authorities for mitigating the consequences of the global pandemic crisis.
But undertaking these activities required the mobilization of additional funds in the form of loans, which, in turn, led to a worsening of global debt problem.

➢ *Significant reduction in the volume of direct investments*. The pandemic crisis has negatively influenced trends in foreign direct investment (Figure 4).
According to UNCTAD forecasts, the overall volume of FDI is set to decline by 42%, to $ 858 billion. Such a low level was last seen in 1990s and is more than 30% below the global FDI level, which followed the global financial crisis of 2008-2009. In this context, UNCTAD expects FDI flows to decline modestly in the range of 5-10% in 2021. In 2022 an upward trend may form. (*Global foreign…*, n.d.)
The general picture of global distribution of FDI is as follows.

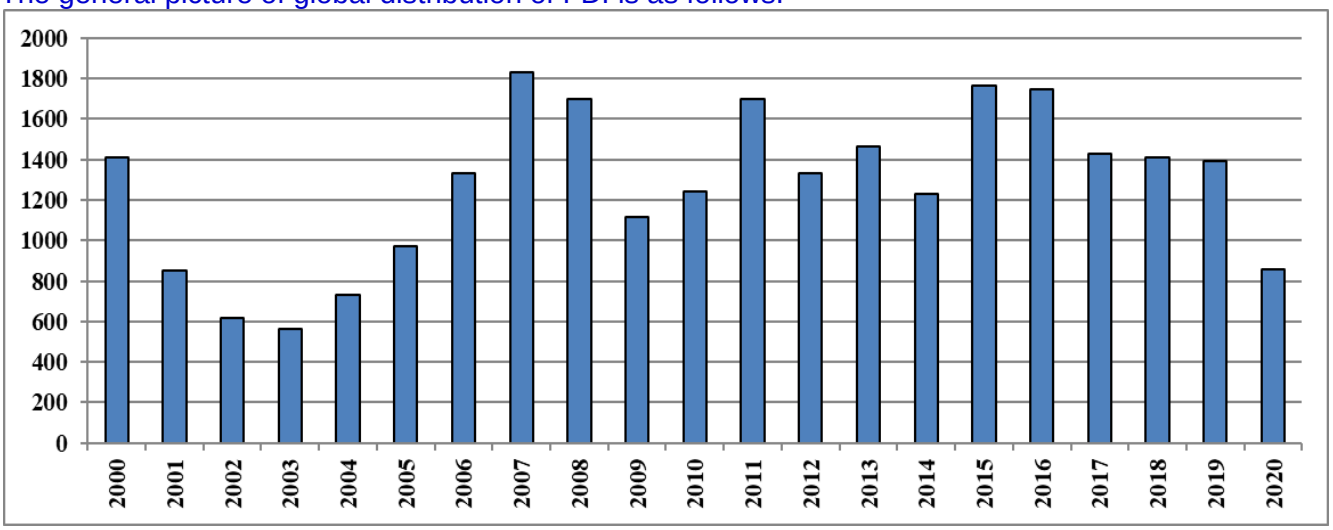

Figure 4. Dynamics of global FDI flows (billion USD)
Source: (Bîrcă, Luchian, Tirlea, 2020), (Global foreign..., n.d.)

During the years 1995-2020, the share of FDI attracted by countries with developed economies was 55.6%. In 2020, the projected volume of FDI in these countries is USD 229 billion, decreasing compared to 2019 by USD 501 billion or 69%.
The share of FDI attracted by developing economies was 40.2%. In 2020, they amounted to USD616 billion, decreasing compared to 2019 by USD 86 billion or 12%.
Countries with economies in transition had a share of 4.2%, attracting USD13 billion in FDI by 2020, down 45 billion or 77% from the previous year.Thus, the COVID-19 pandemic crisis affected in terms of attracting FDI most countries with developed and transition economies. Inevitably, these problems will affect the functioning of the global banking system and global insurance systems.
The current crisis is very likely to degenerate into a deep financial crisis.
In order to alleviate the crisis, central authorities in different countries have taken complex measures, largely aimed at strengthening the financial system and maintaining the financial situation of economic operators, as well as the social protection of population.

Conclusions

The COVID-19 pandemic crisis, which has a unique character, is currently in full swing. Based on a cyclical global economic crisis, which is exacerbated by various negative factors, this crisis is mainly manifested by the significant losses caused by the pandemic, as well as the isolation

measures taken in over 200 countries. The non-uniform interregional and interbranch exposure of the effects of the crisis is remarkable. The pandemic crisis also has multiple financial aspects, which indicate important risk factors. Among the most important we consider the financial problems related to the international monetary system and the collapse of the international investment market. But the most dangerous is the modal debt bubble, which in certain circumstances can generate an additional financial crisis.

Future Directions to Be Approached

The study of addressed topic in the paper is to be continued by results monitoring global pandemic crisis evolution.

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CAPITAL ADEQUACY RATIOS AND COMPLIANCE WITH BASEL III: EVIDENCE FROM ALBANIA

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Abstract:

The capital adequacy regulations are safety mechanism for regulators and banks' shareholders/depositors to minimize expected and unexpected risks from the solvency point of which arise as a result of liquidity risk and the credit risk in daily operations. National bank regulators are responsible to set capital adequacy requirements while international mandate is given to the Bank for International Settlement. The capital requirements of Bank for International Settlement are mandatory for their members while other regulatory authorities have competence to set independent requirements. In practice all of them are adopting prudent requirements similar to international standards. The study covers 12 banks in Albania for the period 2010-2018 examining the capital adequacy ratios and compliance of capital with international requirements. The result of our study show that banking system is well-capitalized and capital ratios are above the national and international capital requirements proving healthy banking system from the capital adequacy perspective.

Keywords: *capital adequacy ratio, Western Balkan, national & international regulators, banking, commercial banks*

JEL Classification: *E58, F68, G28*

Introduction

The study aims to examine the capital adequacy and adequacy ratios in Albania in relation with national and international capital standards. Banking entities operating in the financial market as the intermediary financial entities are focused toward maximization of their profits and the safety of depositors' interests which is the regulatory and supervisory objective.

Financial system has faced a lot of changes in countries which are under the process of transition. Banks have to operate and carry out its activities in compliance with national and international prudential regulatory requirements. Regulatory and supervisory authorities are in charge of adoption of sound banking prudential regulations, licensing process and supervision responsibilities.

After the foundations for supervision of internationally active banks capital adequacy quickly became the main objective of the Basel Committee. The BIS regulations on capital adequacy standards are known as Basel I, Basel II and Basel III (newest standard).

Albania has transformed from one of the poorest countries in Europe to an upper-middle-income country. The country is implementing important reforms to revitalize growth and job creation, while advancing the European Union integration agenda

Albania's economic transformation during the past decades has worked to build on the country's huge potential and opportunities. However, the country's growth model needs to adapt to the new global economic reality and shift from consumption-fueled to investment- and export-led growth.

The Albanian banking sector is well capitalized and liquid, and the main risks to financial stability are on a decreasing trend. Capitalization and liquidity buffers in the Albanian banking sector are

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well above regulatory minima and have further increased in the past two years. Profitability has improved in recent years, mainly on account of a decline in loan-loss provisioning associated with NPLs. The main risks to financial stability stem from having the highest NPL level in the region and from the large share of unhedged forex borrowers. However, both have been on a declining trend recently, partly owing to regulatory initiatives.

In a regional comparison, Albania has the lowest loan-to-deposit ratio and the lowest ratio of banking system assets to GDP, with credit growth mostly subdued or even negative for a number of years. Evidence suggests that it is mostly supply factors that contribute to anemic credit growth as banks restrict lending to the corporate sector. The bank lending survey by the Bank of Albania shows that lending standards for corporates (both SMEs and large enterprises) have almost constantly tightened since the beginning of 2016, while the demand for loans has increased in most quarters. Gradual deleveraging by foreign-owned banks might have contributed to lower banking sector competition. Albania's banking sector has traditionally been dominated by foreign-owned banks. The purpose of the study is to research national capital adequacy legislation and capital ratios and compare with international capital adequacy standards.

Literature Review

The capital adequacy aspect has challenged many interests within financial stakeholders. The rational for the adoption and implementation of capital adequacy by national regulators and/or international bank regulators haven't been studied in the literature in the adequate level. Papers which examine how banks adjust their balance sheets when their capital ratios are constrained by regulation are varied in their conclusions. This is not surprising since the approach banks take to adjusting capital ratios is likely to depend on the business cycle and the bank's financial situation.

Keeley & Furlong (1989) and Rochet (1992) who argued that if banks possessed diversified portfolios, the effects of capital requirements would be a reduction in risk taking. Sheldon (1996) performs a somewhat similar analysis of the equity and asset volatilities of 219 banks from several G-10 countries over the period 1987 to 1994 in which the Basle regulations came into force. His results suggest that bank asset volatility in US banks rose and that this was the case both for banks which increased their capital ratios and for those which did not.

In practice most of the banks hold a capital to asset ratio above the required minimum set by the Basel I-capital adequacy regulation. Lindquist (2004) using bank level data from Norway studied the importance of the risk, the buffer as an insurance, supervisory discipline, the competition effect and economic growth. It was found a negative or non-significant risk effect whish show that launching a more risk-sensitive capital regulation – Basel II is likely to impact Norwegian banks. Study argue also that buffer capital serves as provider of insurance against failure to meet capital requirements.

Lin, Penm, Gong and Chang (2005) studied the index of insolvency-risk to the failure risk in Taiwan banking industry. Study covers period of 1993-2000 to examine various effects prior the revision of legislation on capital adequacy and after revision (end of 1998). The study results indicated a positive relationship between the capital adequacy and the insolvency risk index. It resulted also in significant positive relationship between the capital adequacy and different financial performances.

In 1988 was introduced Basel I by the Basel Committee on Banking Supervision setting the minimum capital requirement at 8% of Risk-Weighted-Assets (RWA). Central Bank of Egypt in 1991 increased the minimum capital requirement for the banking institutions in compliance with Basel I. Naceur and Kandil (2009) researched the effects of capital regulations on cost of intermediation and profitability. The study indicated that the interest of banks' shareholders for managing banks' portfolio have increased therefore higher capital adequacy resulted with higher profitability and higher cost of intermediation.

Akhter and Daly (2009) in their study have used panel data investigating potential relation of financial intermediaries across 50 countries resulting with analysis which show strong impact of

business cycle, inflation and real effective exchange rates, and size of the industry on capital adequacy as main indicator of banks' financial soundness.

The financial global crises of 2007-2009 prove that many big banks' losses were absorbed by their government regardless these banks have been in compliance with capital adequacy based on Basel standards. One key cause was the bank supervisors' confidence on book equity measures whereas accounting data did not catch the true potential to absorb losses. Flannery and Giacomini argued that the aggregate value of government guarantees over period 1997-2011 extended to the 25 biggest European banks amounts nearly to 1.4 million EUR or an average of 28.5% of the banks' equity market values and indicated that the early regulatory warnings to equity drop value can ease significantly costs cope with with bank losses.

Roman and Sargu (2015) in their research for the assessment of the liquidity risk of the banks functioning in Romania and Bulgaria in the context of EU accession investigated the effect of financial indicators for the capital adequacy, assets quality, management quality and profitability have on the liquidity risk for period 2003-2011. Results highlight that the capital adequacy ratio and the ration of impaired loans to gross loans have a statistically significant effect on the liquidity risk.

Czech banks and Slovak banks in the period from 2009 to 2013 increased for 3% respectively for 4.55% the average capital adequacy. Matejasak (2015) objective of study was to determine which strategies these banks adopted in manner to increase their capital ratios using 9 largest Czech and 4 Slovak Banks. Effects indicated that for Czech banks increase of average capital adequacy has basis in capital increase while Slovak banks average capital adequacy was impacted by reducing considerably their risk.

In their study how should we measure bank capital adequacy for triggering Prompt Corrective Action, Chernykh and A.Cole (2015) in identifying U.S. bank failures during crisis period tested the predictive power of different alternative measures of bank capital adequacy. Findings proved that the non-performing asset coverage ratio (NPACR) performs better than the Basel based ratios including Total Capital Ratio, Tier I ratio and the leverage ratio during crisis period. The results prove that NPACR performs better than other ratios at some aspects as are: combination of capital and credit risks in one measure, easing calculation than the Tier I and Total capital ratios, it lets to account for different time periods and cross-country provisioning rules and it performs better than all other frequently used capital ratios in forecasting bank failures.

Mizanur Rahman, Zheng, Ashraf and Morshedur Rahman (2018) using a panel data over period of 2000-2014 of 32 commercial banks in Bangladesh examined relationship of capital regulation on the cost of intermediation and bank conduct in risk taking. The research showed positive relationship between capital adequacy ratio with the cost of intermediation and a negative relationship with risk-taking variables. The study indicated same results when was used equity to total assets ratio as a different indicator of bank capital.

The study of Hadjixenophontos and Christodoulou-Volos (2018) analyses the Cypriot banks determinants of capital adequacy mostly in the period of financial crisis using multiple linear regression. It examine influence of risk, liquidity, and return of banks in the volatility of capital adequacy. The study has resulted with evidence of a statistically significant negative relationship of bank size with risk and a positive relationship of the level of provisions and percentage of NIM (Net Interest Margin). The study show that out of many factors the increase in credit risk and nonperforming loans, excessive leverage, increased requirements by regulatory authorities for the implementation and fulfillment of the Basel III rules by 2019 have influence on capital adequacy ratio in Cyprus commercial banks.

Data, Methodology and Empirical Results

To analyze and examine capital ratios and legislation on capital adequacy requirements study has used available data from the central bank and international financial institutions (BIS, FSI). The Albania data are most recent data available (in force in 2019) by the financial institutions which could be provided and collected by the research. Period covered from 2010-2018 are data used to

assess capital adequacy ratios and compatibility with national and Basel III requirements. Studying compliance with national and international prudential standards and capital adequacy ratios is of highly important for the financial stability and protection of interests of depositors and bank shareholders.

Our study examined all prudential regulations which are in force during the 2019 and which regulates bank capital adequacy. Study has included Regulation "On granting the license and the exercise of banking activity of banks and branches of foreign banks in the Republic of Albania" last amended on 03.07.2019, Regulation "On the bank's regulatory capital" last amended on 09.01.2019 and Regulation "On capital adequacy ratio" last amended on 02.05.2018.

The Regulation has set limits on the regulatory capital indicators as follows:

a)6.75% of Common Equity Tier 1 capital against risk weighted exposures;

b)9% of Tier 1 capital against risk weighted exposures;

c)12% of Regulatory Capital against risk weighted exposures.

Table 1:

Albania CAR for 2010-2018 period

ALBANIA	2010	2011	2012	2013	2014	2015	2016	2017	2018
Regulatory Capital to Risk-Weighted Assets	**15.4**	**15.6**	**16.2**	**18.0**	**16.8**	**16.0**	**15.7**	**16.6**	**18.2**
Regulatory Tier 1 Capital to Risk-Weighted Assets	**14.6**	**14.4**	**14.6**	**14.9**	**13.9**	**13.7**	**13.8**	**15.1**	**17.0**
Return on Assets	0.8	0.2	0.4	0.7	1.0	1.2	0.7	1.5	1.2
Return on Equity	7.6	0.8	3.8	6.4	10.5	13.2	7.1	15.7	13.0
Liquid Assets to Total Assets (Liquid Asset Ratio)	8.5	9.9	11.1	10.1	10.5	10.9	12.8	13.0	14.8
Equity	97,602	99,841	108,216	111,330	117,653	135,092	144,515	156,578	156,329
Total Assets	1,012,070	1,152,774	1,235,866	1,300,471	1,354,708	1,365,628	1,446,049	1,462,991	1,453,177
Total Loans	501,557	579,934	598,546	593,625	614,230	613,283	637,885	631,258	586,281
Loans to Assets ratio	49.56	50.31	48.43	45.65	45.34	44.91	44.11	43.15	40.34
Leverage ratio (total equity to total assets)	9.64	8.66	8.76	8.56	8.68	9.89	9.99	10.70	10.76

Table 1 reflects regulatory capital adequacy ratios and it indicates that the regulatory Tier 1 capital to risk-weighted assets and regulatory capital to risk-weighted assets are in level above minimum requirements set by the regulatory authorities in Albania. Important data shows that the there is increasing trend of regulatory capital ratio for both indicators for examined period 2010-2018. Results indicates sound banking system form capital adequacy prospective.

Capital indicators shown in Table 1 compare to capital adequacy requirements set by Basel III reflected in Table 2 indicates that the capital adequacy ratios of banking institutions in Albania are in compliance with Basel III requirements and even significantly above minimum requirements.

The study except CAR indicators examined the capital requirements for credit risk, market risk, operational risk, leverage and capital buffers shown in Table 2.

Table 2:

Comparison between Albania and Basel III standards

	CAR	Common Tier 1 equity capital/risk weighted	Tier 1 capital/risk weighted exposure	Regulatory capital/risk-weighted exposure	Credit risk	Operational risk	Market risk	Leverage ratio	Capital buffers
Albania		6.75%	9.00%	12.00%	Standardised approach	BIA approach (BIS II) and Stadardised Approach	Banks shall calculate the capital requirement for market risks as the sum of: a) capital requirements for trading book positions, b) capital requirements for all of credit institution's	NA	NA
Basel III		4.50%	6%	8%	Standardised approach and IRB Approach	BIA approach (BIS II), Standardised approach and Advanced Approach	Market risk-weighted assets (RWA) would account for 5% of total RWAs average	3%	Capital buffers: for capital preservation, systematically important banks, counter-cyclical buffer, systemic risk, for a GSIB

For calculation of capital requirements for credit risk the bank when calculating the amount of risk weighted exposures shall apply the standardized approach. For the requirements of calculation of capital requirements for credit risk, exposures towards investment companies from third countries and exposures towards banks shall be treated as exposures towards institutions only if the third country is, applying regulatory and supervisory requirements that are approximately equal to the ones being applied in the European Union. For these requirements the Agency shall apply the decision of the European Commission on whether a third country is applying regulatory and supervisory requirements that are, at the minimum, approximately equal to the ones being applied in the European Union.

In process of capital requirement for market risk the trading book of a bank shall cover all items in financial instruments and commodities that are held with intent to trade or for the purpose of protection from risk of other items in the trading book. Positions in the trading book must not have limitations to their marketability or they are possible to be hedged from risk. The trading book shall cover all items that are, in compliance with applicable accounting standards, classified in the category of financial assets or liabilities under fair value through the income statement of the bank (items intended for trading).

Operational capital risk shall be calculated using Basic Indicator Approach and Standardised Approach. Banks shall calculate the capital requirement for operational risk under the Basic Indicator Approach, which takes into account the net income from banking activities for the last three years of the bank's activity, and an α coefficient equal to 15%.

Banks shall use the following formula to calculate capital requirements for operational risk:

Capital requirement for operational risk = {(Net Income indicator of T-1) * (15%) + (Net Income indicator of T-2) * (15%) + (Net Income indicator of T-3) * (15%)} / 3

With the condition that:

- oThe Net Income indicator of year T -1 > 0; and
- oThe Net Income indicator of year T -2 > 0; and
- oThe Net Income indicator of year T -3 > 0; and T is considered the reporting year.

Banks shall calculate the capital requirement for operational risk under the Standardized Approach, which takes into account the indicator of the net income from banking activity for the last three years according to business lines and the respective coefficient β. In each given year, a negative capital requirement in one business line, resulting from a negative relevant indicator may

be imputed to the whole. However, where the aggregate capital charge across all business lines within a given year is negative, then the input to the average for that year shall be zero.

Banks in Albania are not required to comply with any financial leverage ratio because there is no any legal requirements adopted in 2019 by the regulatory authority.

Capital buffers required by Basel III are planned to be adopted in the future activities of regulatory authority. As of year 2019 (see webpage of Bank of Albania) no any legal requirement are in force.

Conclusion

National bank regulators or central banks in their course of prudential activities are requiring the minimum capital adequacy ratios. The study indicated that banking institutions in Albania hold higher capital adequacy ratios than the level required by the national legal requirements. The same indication is valid for capital adequacy ratio of banks which is higher than levels required by the Basel III. Analysis positive indicator is the continuous increasing trend of regulatory capital ratio for both indicators of CAR for examined period since 2010 to 2018. Results indicates sound banking system form capital adequacy prospective.

Prudential capital requirements set by the regulatory authorities of Albania shown in Table 2 compare to legal capital adequacy requirements set by Basel III indicates that the legal capital adequacy requirements of banking industry in Albania are mainly in compliance with Basel III requirements.

Results indicate that the Bank of Albania's strategy is to adopt capital adequacy requirements for banking sector which are in compliance with Basel III requirements. As a consequence of not being a member of Basel Committee and irrespectively that Basel requirements are not compulsory for banks in Albania except for banks which are affiliates of internationally active banks, the Bank of Albania has adopted more rigorous capital adequacy ratios compare to Basel III requirements. Regulatory authority in Albania is pretending to accomplish and adopt in the future other capital requirements including financial leverage and capital buffers.

Capital calculation for credit risk and operational risk banking entities are using only standardized approach. Capital buffers are not in force in the examined period as of the end of 2019.

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SOME ASPECTS REGARDING THE IMPACT OF COVID-19 AT THE MACROECONOMIC LEVEL AND AT THE LEVEL OF MULTINATIONAL COMPANIES

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Abstract:

The world economy is affected by the spread of Covid-19 and by the measures taken to prevent the spread of the disease. The effects will be felt in terms of prices, supply and demand, living standards, international trade, labor market, the budget and external deficit, transport, supply chains, tourism, etc. The analysis shows that companies will simultaneously face challenges due to supply and demand disruptions, but also of a different nature. Covid-19 brought about the readjustment of the companies' business models. Thus, the restrictions imposed have increased the importance of online commerce. Covid-19 could drag along the construction of quasi-independent regional production chains, leading to a shortening of supply chains, favoring the strategic use of stocks and a new approach to risks.

Keywords: *forecasts, changes, effects, companies, supply chains*

JEL classification: *D20, E30, F23*

Introduction

Covid-19 has brought into the world an unprecedented challenge. The effects on the economy are not due to economic causes, but are generated by the measures taken by national governments for medical reasons to prevent the spread of a disease. These measures consisted in the (temporary) closure of some companies (which led to the stop of the production); in restricting the movement of people and goods (with consequences in the direction of disruption of supply chains). The likely effects are the slowdown of national economies and of the global economy, through contractions in production, in household spending, in investment and in international trade (European Commission, 2020). In March 2020, the sectors the most affected were health, tourism and transport, especially air transport (European Commission, 2020).

Some effects in the economy of the measures taken in the context of Covid-19

Given the high probability of the hypothesis that the spread of Covid-19 will generate an economic crisis in the world economy, and that the measures adopted in response to Covid-19 will cause problems of sovereign debt default and financial contagion, The Economist Intelligence Unit (2020) considers a few scenarios. Thus, a very likely scenario is a fracture in the world economy as a result of a trade war between the US and China. Another scenario with a high probability of occurrence concerns the effects on the world trade caused by the definitive return of open economies to anti-globalization policies. The last scenario, which has a low probability of emergence according to The Economist Intelligence Unit (2020), is for the world economy to recover quickly, in the context in which Covid-19 is proving to be less harmful than expected.

The European Commission (2020) estimates that the European economy will be affected by Covid-19 through several transmission channels, namely: *the shock resulting from China's initial contraction* in the first quarter of 2020; *the shock of supply* in the European economy as well in the global economy as a result of disruption in supply chains and people missing from work; *the*

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demand shock that affected the European and global economy, caused by declining consumer demand (amid diminished household income as a result of measures taken to prevent the spread of Covid-19); the negative impact of uncertainty on investment plans and the impact of liquidity shortages on enterprises.

In addition, according to an analysis of the European Commission (2020), the measures taken in the context of Covid-19 will affect trade in the sense of reducing trade flows, as a result of declining economic activity.

Measures taken to prevent the spread of Covid-19 have led to a halt in production, would probably cause recession, have negatively affected the labor market (through unemployment), but have also caused the fall in the prices of some products such as oil or metals. (Roubini, 2020).

Roubini (2020) considers that the measures adopted in the context of Covid-19 hasten a trend of fragmentation that was already noticeable. Thus, most countries will react to the newly created situation by adopting more protectionist measures meant to protect their companies and employees from global collapse. And the post- Covid-19 world will be marked by the restriction of the freedom of movement of goods, services, capital, labor force, technology, information. This is already happening in the pharmaceutical, food and medical equipment sectors, where governments have imposed export restrictions and other protectionist measures.

Given that it occurs exceptional expenditures for financing public health and healthcare systems, as well as for providing social and fiscal support, there will probably be a massive increase in fiscal deficits - of 10% of GDP or more - at a moment when the debt level is already high (Roubini, 2020). The increase of the budget deficit leads, according to the twin deficits theory, to the increase of the external deficit (Cerna, 2018).

All these make deflation very likely and increase the risk of insolvency.

Roubini (2020) estimates that as central banks will try to fight deflation and prevent interest rate hikes (due to high debt accumulation), monetary policies will become increasingly unconventional. In the short term, governments will have monetized fiscal deficits to avoid deflation. But later, the negative shock of the break of supply chains, as a result of protectionism, will make inevitable the increase of inflation and unemployment (stagflation). These will lead to the devaluation of the national currency.

Trade in services can be the component of world trade the most directly affected by Covid-19 due to the transport and travel restrictions and to the closure of many hotels, restaurants, etc. Unlike goods, services cannot be stored; trade in services not carried out during the restrictions period could be lost forever. However, some services may benefit from the crisis created. This is the case of information technology services, whose demand has increased significantly because companies have allowed employees to work from home, as well as due to the fact that people socialize from distance.

Thus, Covid-19 has a significant impact on transport, and implicitly on the European supply chains. The discontinuance in the flow of goods can lead to serious economic damage. Air supply chains have been almost completely disrupted. Supply chains by land have been severely affected by the introduction of bans on entry at land borders or by restrictions on drivers heading to certain Member States. This affected all goods, but especially essential supplies and perishable goods, and as most companies in this sector are SMEs, the effects have been prompt and severe.

The tourism industry in the European Union has been and continues to be affected by the considerable reduction in the number of international arrivals (cancellations and decreases in the number of bookings), as well as by the slowdown in national and intra-EU travel, due to the reluctance of EU citizens to travel, and to prevention measures adopted at national and / or regional level. SMEs in this sector are particularly affected by this general decline in travel for tourism or business purposes. The trade fairs and congresses sector is also affected, with more than 220 events being cancelled or postponed in Europe for the first quarter of 2020. Other related sectors, such as food services, as well as education and cultural activities have been and continue to be, also under increasing pressure due to the Covid-19 and to the efforts to limit its spread.

According to prognosis, the Covid-19 crisis will have a significant negative economic impact on the EU and the euro area. It is estimated that the direct impact, through all channels, will reduce real GDP growth in 2020 by 2.5 percentage points compared to the scenario where there was no pandemic, i.e. there would be a decrease of around 1% of GDP in 2020, with a substantial but not complete recovery in 2021.

However, some of the direct effects of measures meant to combat the spread of Covid-19 can be offset in 2020 by prompt and effective policy action, which could mitigate the negative impact on real GDP. However, policy measures will not be able to protect EU from the negative effects of the crisis in China and only to a limited extent - or not at all - from the effects of supply-side shocks on labor. However, these measures can play an important part in mitigating the negative impact of declining consumer demand and on companies facing liquidity problems.

A strong recovery is more likely if policymakers send signals that Covid-19 was a temporary, single economic shock. In this case, spending on capital and consumer goods will resume at levels close to those before the disease. On the other hand, if the pandemic is prolonged and / or uncertainty becomes widespread, households and economic agents are likely to spend more cautiously.

The longer the restrictive measures remain in place, the longer the period of economic damage, and the greater the reduction in permanent capacity. (UNCTAD, 2020).

For a speedy and vigorous recovery, fiscal, monetary and trade policy measures must converge.

Some effects of the measures adopted in the context of Covid-19 at the level of multinational companies

According to The Economist Intelligence Unit (2020), the world economy will see a sharper decline in output than after the global financial crisis of 2007-2008. A slow recovery will follow, which means that demand for a range of goods and services will be significantly diminished in 2020. As a result, companies will simultaneously face challenges due to disturbances in both supply and demand. In addition, due to supply disruptions in many sectors, it is possible for multinationals to face challenges related to delivery, procurement, but also other challenges. Scenario planning techniques will become very important as firms try to limit the impact on their supply chains, and to deliver goods when consumption is higher. Strategic planning of future activities is necessary because it offers new opportunities for many companies to reach new customers, which they could not reach in the conditions before Covid-19.

Covid-19 has brought about the accommodation of the companies' business models. This is the case of restaurants, which, in many countries, unable to function as before the disease, have developed their delivery options in order to attract more customers. Another example is consumer goods companies that have faced the closure of physical stores all around the world. As a result, they have developed their online activities to attract customers and maintain / increase sales. Thus, the restrictions imposed as a result of Covid-19 (social distancing, restrictions on leaving home, etc.) have led to an increase in the importance of online trade (especially for medical, food and household products) and the development of online presence of companies in order to maintain the relationships with customer.

The Economist Intelligence Unit (2020) argues that consumer habits built up in 2020 will be perpetuated, and companies will need to develop more their online trading platforms, and to find new channels for selling their goods, and efficient methods of delivering products.

However, online trade in goods and services has also been negatively impacted by the same factors that have disrupted physical supply and demand (closure of factories, which has led to a decline in production in many countries; the introduction of new health regulations on international transport and logistics services, which have severely disrupted most international means of transport). Negative effects include delays in delivery or total cancellation of orders. New challenges related to online trade have emerged, others have been amplified during this disease. These include online consumer protection: price gouging (increasing prices to unreasonably high levels), product safety concerns, deceptive practices, cybersecurity issues, the need to increase bandwidth and development-related concerns (WTO, 2020). Other challenges relate to collect and

share, at the international level, of pertinent information and data allowing to determine the risks involved in each transaction, including with respect to sanitary and phytosanitary, and technical barriers to trade.

Governments have adopted new measures, and the private sector has also acted to ensure that e-commerce can help to alleviate some of the challenges faced in fighting the disease (for example, increasing network capacity, offering expanded data services at low or no cost, lowering or eliminating transaction costs on digital payments and mobile money transfers, improving delivery services and other logistics).

According to The Economist Intelligence Unit (2020), the digitization of distribution chains will increase. This trend faces some challenges, including the existence of different operating systems in each country and customs controls based on documents in physical form. The provision of data by suppliers along the chain is necessary for visibility, but it will raise issues of privacy and competition.

In this context, it has been highlighted the need to diminish the digital divide, both within and across countries, given the central role that digital economy has played during the crisis. In order to support greater participation in e-commerce activities of small producers, sellers and consumers in developing countries, and in least-developed countries, it has arisen the need for efficient and affordable information and communications technology services, such as telecommunication, computer and other IT services. These include access to online payment solutions, reliable internet and electricity connections, visibility in online searches, advertising and sales platforms, the prohibitive costs of trading across borders, and the difficulties in gaining consumer trust.

Covid-19 and global supply chains

Covid-19 can lead to the relocation of Chinese production to other Asian countries (The Economist Intelligence Unit, 2020) and the build-up of quasi-independent regional production chains in America and Europe, i.e. shortening of supply chains could take place, favoring strategic use of stocks and a new approach to risks.

Moreover, companies in the consumer goods sector (especially small and medium size) will be able to join regional supply chains.

The build-up of regional supply chains will provide coverage against future shocks for multinational companies. Thus, they will have the possibility to move the production of key components from one region to another, as factory blockages and closures occur, for example as a result of coronavirus. Production chains are difficult to create and even harder to move, especially in the automotive sector.

Another important decision of the multinationals affected by Covid-19 concerns the production schedule and the assembly of products along the production chain, as well as the storage of intermediate or final goods throughout this process. For efficiency, multinationals tend to optimize the logistics process of production chains in order to minimize storage costs. However, in a world where uncertainty and risk are constantly rising, focusing only on transport and production efficiency will leave companies vulnerable to shocks. In the current crisis, companies are giving more importance to storing stocks in strategic locations, which can be easily accessed, and from where products can be delivered to customers. This approach applies to final goods, but also to strategically important components, such as those that can be supplied only from a market.

Maintaining a strategic stock of final goods and critical components has helped some companies to cope with the effects of Covid-19. Although the practice of maintaining strategic stocks may diminish over time, the need to monitor the strength of the production chain to shocks and maintain storage flexibility is an issue of the production chain management that will continue.

Companies will also need to think strategically about pricing policy. Both the regionalization of supply chains and the creation of strategic stocks will lead to the increase of the final prices of goods, reducing the competitiveness of products. On the other hand, a more regionalized supply chain will give companies the opportunity to focus more on local tastes amid a greater capacity to

differentiate products. In the medium term, this can offer companies the opportunity to set higher prices for their products, perhaps offsetting the increased production costs due to regionalizing supply chains and holding larger stocks.

According to The Economist Intelligence Unit (2020), the insecurity in the global economy makes companies to pay more attention to preventing the materialization of risks.

Some of the challenges that Covid-19 has brought and need urgent solutions could be addressed through the implementation of the Trade Facilitation Agreement, which came into force in 2017. It has several provisions that promote the adoption of improved export, import and transit procedures. For example, the Agreement includes provisions such as:

• allow for the advance lodging of documents in electronic format in order to allow for the pre-arrival processing of such documents

• allow for the electronic payment of duties, taxes, fees and charges collected by customs for imports and exports

• provide for a minimum shipment value or dutiable amount for which customs duties and taxes will not be collected; in certain members, this also extends to the VAT and other internal taxes.

Conclusions

The measures taken to prevent the spread of Covid-19 (i.e. stopping production) may cause recession, and may affect negatively the labor market (through unemployment), but have also caused the collapse of the price of some products such as oil or metals, and have caused the decrease of trade flows as a result of declining economic activity.

Trade in services has been affected by Covid-19 by imposing transport and travel restrictions and by closing many hotels, restaurants, etc. Unlike goods, services cannot be stored; trade in services not carried out during the restrictions period has been lost forever (e.g. transport, tourism). However, some services have benefited from the crisis. This is the case of information technology services, whose demand has increased significantly.

Covid-19 has brought about the adaptation of the companies' business models. Thus, the restrictions imposed (social distancing, restrictions to leave home, etc.) have led to an increase in the importance of e-commerce, highlighting the fact that it can be an important tool / solution for consumers. E-commerce can support small businesses and it can be an economic driver for both domestic growth and international trade.

The measures taken in the context of Covid-19 could lead to the build-up of quasi-independent regional production chains, inducing the shortening of supply chains, favoring the strategic use of stocks and a new approach to risks (due to the insecurity in the global economy), with effects on costs, and implicitly on prices, but also on the logistics process.

Strategic planning of future activities is necessary because it offers new opportunities to reach new customers.

The full effect of COVID-19 on global value chains will become clearer in the coming months.

The longer the restrictive measures remain in place, the longer the period of economic damage.

In the future, the degree of fulfillment of the negative outlook will depend on the supply of critical raw materials, on the effectiveness of measures meant to limit the spread of the virus, on the periods of production pause, on the number of lost working days in companies and public administrations, and on the effects on demand (e.g. mobility restrictions, travel cancellations).

For a speedy and vigorous recovery, fiscal, monetary and trade policy measures must converge.

Finally, we can say that the current situation is rapidly evolving, and suggestions may become outdated at the same pace as the development of the conditions caused by Covid-19.

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NET PRESENT VALUE (NPV) VERSUS INTERNAL RATE OF RETURN (IRR) IN TAKING THE INVESTMENT DECISION FOR MUTUALLY EXCLUSIVE PROJECTS

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Abstract:

In current economic context, characterized by multiple challenges and uncertainties, it is extremely important taking investment decision to be rigorously founded. Due to fact that at base of its adoption are methods for evaluation of the investment projects, especially those indicators that use discounting technique for ranking investment process, Net Present Value (NPV) and Internal Rate of Return (IRR) require detailed analysis, especially for mutually exclusive *projects, because there are situations where the two methods leads to different decisions, such as: NPV indicates the adopting of one projects, whereas IRR choose another project.*

Keywords: *Investment decision, Net Present Value, Internal Rate of Return*

JEL classification: *G30, G31*

Introduction

Value of investment projects is crucial for any manager to correctly quantify, especially when a certain goal of a firm cannot be attained without having to *choose* between more than one investment project – i.e., to choose one investment project out of several ***mutually exclusive*** projects.

This, in turn, confronts the manager with yet another dilemma: which index should be used in measuring investment projects' value with, NPV (Net Present Value), IRR (Internal Rate of Return), or both? Historically, when NPV blatantly proved to be an imperfect index, or just a *part* of the answer(s) it had to come up with, economics came (so to speak) with IRR, but their (joint) use is a decision resting on less clear-cut foundations than this 'NPV gave way so IRR could rise' principle, and in the same time *must* be undertaken in certain circumstances, and under certain limitations, as will be argued further on.

Content

The NPV index, used – and developed – especially for evaluating investment projects' desirability, is built around discounted cash flow (DCF) technique, used through implementation of the following three main steps:

1. Present value of each cash flow is quantified – including all inflows and outflows, and *discounted* at the project's capital *cost*
2. All cash flows' present value are summed up – and that sum is defined as project's NPV
3. If NPV value is positive, the project should be accepted; consequently, if NPV value is negative, it should be rejected.

NPV formula is (where CF_1, …, CF_n are expected net cash flows at end of each year, CF_o initial investment outlay, i discount rate (minimum required rate of return on investment – in practical terms, this equals a given level of interest rate, i.e. interest rate market average[44]) and n project/investment's duration in years):

$$NPV = CF_0 + \frac{CF_1}{(1+i)^1} + \frac{CF_2}{(1+i)^2} + \cdots \ldots \ldots + \frac{CF_n}{(1+i)^n}.$$

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[44] Maddala, G.S., Miller, E. (1989), p. 565

An NPV value *equaling zero* signifies project's cash-flow are only sufficiently high to repay the invested capital and to provide required rate of return on the capital; this, furthermore, means that:

(I) Costs proper incur whilst investment project is under way and stop being recorded (i.e. faced) when investment project is completed;

(II) Net cash flows (i.e. benefits) start being gained from the very moment investment project is completed, for a given number of years (n).

As per the object of our paper, if two or more projects with positive NPVs are *mutually exclusive*, the one with the higher NPV should be chosen.

On the other hand, IRR index is a necessary step forward from NPV level – which neither makes it an econometric 'waterproof good-for-all answer', nor renders NPV (at least, not in *all* cases) redundant. It is an index required by informational needs of a manager for running economic operations in long term, and thus, even on principle, *can* be used *along* with NPV.

This step forward is, in fact, the need to give the answer to a question any business plan has to deal with in its long-term version: are future benefits (of a given investment project) *at least* equal to its initial costs? This answer is obtained through quantitively determining several factors.

To some the main econometric reasoning up: whilst, from a theoretical perspective, a business seeks to find – arguably, especially in case of 'competing', i.e. mutually exclusive, investment projects – value of *discount rate for which future benefits equal initial costs*[45], more precise for which NPV=0, in practical terms, management must compute overall profitability of a project necessary so that $NPV \geq 0$.

In turn, what must be adequately measured is the present value of return rate of the project(s) – which is what a firm looks for, namely value of *internal* rate of return (IRR).

IRR formula, consequently, is (where CF stands for cash-flows recorded by firm – CF_0 being costs generated by a project being implemented and CF_1, …, CF_N benefits received by firm through project materialization)[46]:

$$NPV = 0 = CF_0 + \frac{CF_1}{(1+RIR)^1} + \ldots + \frac{CF_N}{(1+RIR)^N} \Leftrightarrow$$

$$\Leftrightarrow CF_0 + \frac{CF_1}{(1+RIR)^1} + \ldots + \frac{CF_N}{(1+RIR)^N} = 0$$

From this point of view, decision to *invest* in order to materialize *an* (as per mutually exclusive projects paradigm – i.e., *one* project and not *any other* project) investment project will be adopted only *if* opportunity cost of capital (i.e. interest rate - *r*) is smaller than internal rate of return[47]; to put this is another light, IRR is equal to maximum cost of capital a firm *can* afford.

There are circumstances in which IRR index is not good enough for determining profitability of investment projects, and the need to choose between mutually exclusive projects is one of most important[48]. Why? Because, for a firm's investment strategy, mutually exclusive projects are those investment projects which, given their financial perspectives (i.e. cash flows), on one hand, and financial requirements (i.e., costs), on the other hand, are not *close* in quantitative terms, and therefor *are* not practically comparable.

Because of this, IRR index is unable to prove useful – in this case –, considering whatever value IRR takes each of the mutual exclusive projects, *any* of these projects can prove, in the long run, more profitable than any other.

It should be observed all this conflict issue of using NPV and, respectively, IRR for determining optimal solution project out of al least two mutually exclusive investment project stems from a fundamental economic perspective principle – that of reinvestment of (investment project's) cash flows; for, it might be useful to generate cash flows *sooner* rather than later:

1. According to NPV methodology, rate at which cash flows can be reinvested is the cost of capital;
2. Conversely, according to IRR methodology, the firm can reinvest (i.e. project's cash flows) at IRR;

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[45] Ehrhardt, M.C., Brigham, E.F. (2011), p. 387.
[46] Ibid.
[47] Ibid., p. 117.
[48] Brealey, R.A., Myers, S.C., Allen, F. (2014), pp. 130-131.

3. According to a number of observations of *average* firm behavior, the 'best' assumption is that project's cash flows can be reinvested at the cost of capital, from which *would* be inferred NPV method is more reliable.

Pondering about what is to be obtained out of said average firm behavior observations, there is a way out of this NPV vs. IRR 'tug of war' quandary – that is, an index which is able to point out *which* project is the winner, in the unenviable situation when according to NPV and, respectively, to IRR not *the same* project is found out to be the best choice; this index is known as the ***crossover rate***[49].

Crossover rate is the rate of return at which the Net Present Values (NPV) of two or more projects are equal – in other words, at which net present value profile of one project intersects the net present value profile of (an)other project(s).

If the cost of capital is less than the crossover rate, the NPV method ranks a project, but the IRR method indicates the other project. Thus, a conflict exists if the cost of capital is less than the crossover rate. Basic practical economic logic suggests NPV method is better, because it selects the project that adds the most to the shareholder wealth.

To clarify this, in the table below are data illustrating in a quantitative approach the relationship between two (in this example) mutually exclusive projects – named PROJECT ALFA and PROJECT BETA – and NPV and IRR indices.

Processing both projects' data yields following results (assuming discount rate i = 5%, i.e. an *average* interest rate in a typical developed market economy, and n = 6):

PROJECT NAME	**ALFA**	**BETA**	***GAMMA***
CF_0	-20500	-48000	*27500*
CF_1	4500	11000	*-6500*
CF_2	3200	9000	*-5800*
CF_3	3800	9200	*-5400*
CF_4	4200	9600	*-5400*
CF_5	5500	11200	*-5700*
CF_6	6000	12000	*-6000*
NPV	***$2,212.83***	***$4,214.78***	**($2,001.96)**
IRR	***8.06%***	***7.63%***	**7.28%**

Our case is fit for illustrating the difficult times managers involved in convoluted decision making involved identifying 'best' investment project from a set of *mutually exclusive* projects have to deal with (in real life). For, assuming that i = 5%, both projects – ALFA and BETA – *would be* acceptable (i.e., could be equally chosen) because:

I. on one hand, NPV(ALFA) and NPV(BETA) are both positive, and, with NPV(BETA) > NPV(ALFA), investment project of choice will be BETA project;

II. on the other hand, IRR methodology has two conditions to be fulfilled simultaneously:
   a. IRR(ALFA) > i
   b. IRR(BETA) > i, and we have:
      - 8.06% > 5.00% ⇔ TRUE
      - 7.63% > 5.00% ⇔ TRUE

   ⇨ Conditions fulfilled.

   We have 8.06%>7.63%, so IRR(ALFA) > IRR(BETA) – which means per IRR methodology investment project of choice will be ALFA project.

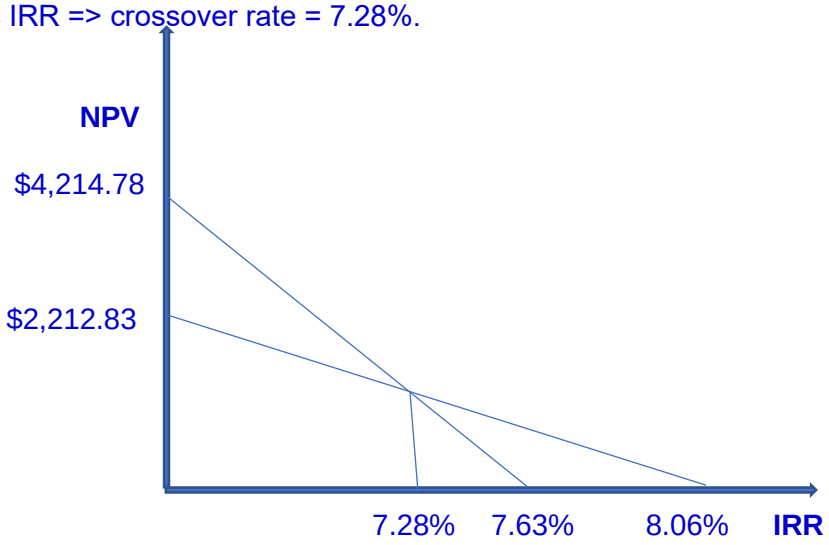
In this situation, when, according to NPV and, respectively, to IRR methodologies, not *the same* project *is* found out to be the best choice, we make use of crossover rate. This is computed in following two steps:

(1) Firstly, we calculate the difference in cash flows of both investment projects for each year;

[49] https://corporatefinanceinstitute.com/resources/knowledge/valuation/crossover-rate/.

(2) Then, we determine the IRR of resulting 'adjusted' investment project – which is the crossover rate.

In our case, 'adjusted' investment project is GAMMA project, and the crossover rate is GAMMA project's IRR => crossover rate = 7.28%.



r < 7,28%: NPV BETA> NPV ALFA; IRR ALFA> IRR BETA ⇒ CONFLICT

r > 7,28%: NPV ALFA > NPV BETA; IRR ALFA> IRR BETA ⇒ NO CONFLICT

It can be noticed in the figure that if the cost of capital is lower (r) than the crossover rate (7.28%), the NPV method indicates the project BETA, but the IRR method ranks the project ALFA and thus, there is a conflict. As long as the cost of capital is higher than the crossover rate both NPV and IRR will lead to the same decision.

Conclusions

Relevant literature is coherent enough to strongly state that, if cost of capital is less than crossover rate, the NPV method ranks a project, but the IRR method indicates the other project. Thus, a conflict exists if the cost of capital is less than the crossover rate.

In the matter of evaluating mutually exclusive projects, especially those that differ in scale and/or timing, the NPV method should be used, basis of this being the assumption project's cash flows can be reinvested at the cost of capital – from which is inferred NPV method is more reliable.

Thus, crossover rate is *the* tool to use for assessing (highest) value of mutually exclusive projects, as the rate of return at which Net Present Values (NPV) of two or more projects are equal.

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OPTIMIZING INFLATION POLICIES IN THE REPUBLIC OF MOLDOVA

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Abstract:

The successful anti-inflationary policy of the state is an important condition of its economic growth. For supporting sustainable economic development, the state creates economic policy, so that it provides it with an anti-inflationary direction. Selected by the government system of actions in conditions price inflation and depreciation of money form an anti-inflationary policy. Thus, the state anti-inflationary policy is a set of measures carried out by state bodies to control inflation by regulating the monetary and other sectors of the economy. The author reveals aspects of inflation in Republic of Moldova economy and suggests anti-inflationary measures as a means of exerting comprehensive impact on the reasons behind inflationary processes.

Keywords: inflation, sustainable economic, inflationary processes, anti-inflationary policy.
JEL Classification: *C32, E31*

Introduction

Anti-inflationary policy as an element of government regulation is a set of macroeconomic stabilization measures. These measures aim to regulate the movement of money and achieve a balance between the commodity market, the financial market and the labor market. Anti-inflation policies are varied, depending on the criteria that are taken into account in their construction: the intensity and meaning of the process; the methods and tools used; inflation anticipation; agreed socio-economic doctrine. These policies aim to return to a state of monetary stability, to keep prices within reasonable limits, often with the aim of reducing unemployment. Regardless of the criterion or criteria taken into account, the policy or policies act either from aggregate demand (following its restriction) or from aggregate supply (following its growth). In connection with the approached problem, it is opportune to come with some clarifications on the concept of inflation, existing in the economic literature, among which we will mention the following:

1. In the conception of J.M. Keynes inflation is generated by a surplus of demand for goods and services to which the economy cannot respond. The phenomenon translates into a slow rise in prices, after which, if the initial momentum is maintained, the rise in prices becomes chronic, turning into inflation [4, p. 158];

2. The Romanian economist Victor Slavescu considers that whenever monetary signs are created and put into circulation on the market, over the real needs of production and exchange of economic goods and services, so many times we will find ourselves in front of an abnormal, artificial monetary situation. , called inflation [1, p. 253];

3. In a modern vision, Costin C. Kiritescu conceives inflation as having a much wider scope, it is a notion related to the money supply in circulation, an objective phenomenon, which does not exclude its conscious use, the immediate cause is the economic and financial disorganization reflected in the growth of the money supply in circulation at a faster pace than the growth of production [5];

4. According to the Dictionary of Economics, inflation is defined as a phenomenon specific to periods of economic crisis, consisting in the depreciation of paper money in circulation as a result

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of either issuing a mass of money over the real needs of circulation, or reducing the volume of production and circulation goods, which leads to a decrease in the purchasing power of money [3].

Description of the problem

Contemporary inflation, understood as structural, monetary-material imbalance, is generated by the following causes:

- the increase of the money supply through the excessive issuance of money signals generates inflation through money;

- excess solvent demand has the effect of inflation due to excess demand;

- insufficient supply, in the sense that the increase in revenues (especially wages) is not offset by an increase in the production of goods and services which is the result of supply inflation;

- substantial increase of credit and, implicitly, the excess of nominal demand for consumer goods determines the inflation through credit;

- the increase of costs through the convergent actions of all economic actors in the direction of price increases determines the inflation through costs;

- causes that are outside the market, the existence of strong monopolistic, oligopoly and administrative-bureaucratic structures, etc. whose action leads to structural inflation;

- the variation of the nominal salary is considered by the American economist J. K. Galbraith a main cause of inflation that leads to the increase of the labor costs, and therefore, to the inflation through wages;

- the specific changes of the nominal wage, of the productivity of the production factors and / of the profit rate are considered by the neo-Keynesian economists, causes of inflation. They distinguish the causes of inflation in relation to time: short-term inflation and long-term inflation;

- the increase of international prices for raw materials, fuel, energy, etc., the effect of which is imported inflation [7, p. 36].

Often in a national economy there is self-aggravation or self-maintenance of inflation, which is explained by the reaction of economic subjects to rising prices:

1. The population increases the demand for goods, anticipating the increase of prices;
2. The population depreciates the currency, anticipating the loss of purchasing power;
3. Economic agents increase their raw material reserves, anticipating the increase of prices;
4. Economic agents decrease the offer, anticipating the increase of prices [Cocriş].

Methodology and data sources

Theoretically, the most consistent criterion for measuring the inflationary process is the absolute and relative gap between the nominal solvent demand and the real supply of material goods and services. Both sizes must be considered as aggregates on the scale of countries' economies. Absolutely, the amount of inflation would consist in the difference between the absolute nominal demand and the real supply of goods that economic agents can offer and that they actually put up for sale. Relatively, the process is measured as a percentage ratio between the absolute difference shown and the mass of the real supply of goods. Relative quantities, in turn, can be expressed in indices. Based on the respective indices, one can appreciate the meaning of the evolution of the inflationary process (ascending, descending, constant). Inflation can be measured by several indicators. The most important of these are:

1. Consumer price index (CPI) - is an economic indicator, which measures the overall evolution of the prices of purchased goods and service tariffs used by the population in a certain period (called the current period) compared to the previous period (called the period of base or reference). The CPI is intended to measure changes in the dynamics of the general level of prices for products and services purchased for consumption by households in the country. The CPI measures the general

trend of consumer prices over time. Everything consumers buy has a price, this price can vary over time, and consumer price indices are intended to measure these changes. The CPI measures average inflation based on household spending on shopping cart items. The components of this basket and their share in total expenditures are determined by the National Bureau of Statistics on the basis of surveys conducted on households in the Republic of Moldova.

2. Production Price Index (PPI) - measures the evolution of prices in the stages before final consumption, respectively the prices of raw materials, semi-finished products and finished products before being delivered to the market.

3. General Price Index (PGI) - measures the evolution of all prices in the economy, respectively both the prices of goods consumed by households and the prices of goods entering production processes. This is the most general way to measure inflation.

4. GDP deflator - shows the evolution of the average price level of all goods and services included in GDP, and is calculated as the ratio between nominal GDP and real GDP. The difference between the PGI and the GDP deflator comes from the different structure of goods and services that are included in each of them. If the GDP deflator is calculated on the basis of goods and services produced within the country, the general price index is calculated taking into account the imported products. [2, p. 281].

Next, we present the dynamics of consumer price indices for the years 2015-2019. We determine that the consumer price index has a downward trend during this period, so in 2015 it was 109.7%, 2016 - 106.4%, 2017 - 106.6%, 2018 - 103.0%, 2019 - 104, 8%. Within the elements of consumer prices, it is observed that the largest increase in prices is attested for foodstuffs, which form the most important part of a person's consumer basket. The only exception is 2015, when the increase in prices for non-food goods was higher, due to the depreciation of the national currency. In 2019, the following increases were registered for the CPI components: food products - 7.61%, non-food products - 4.19%, services - 1.47% (figure 1).

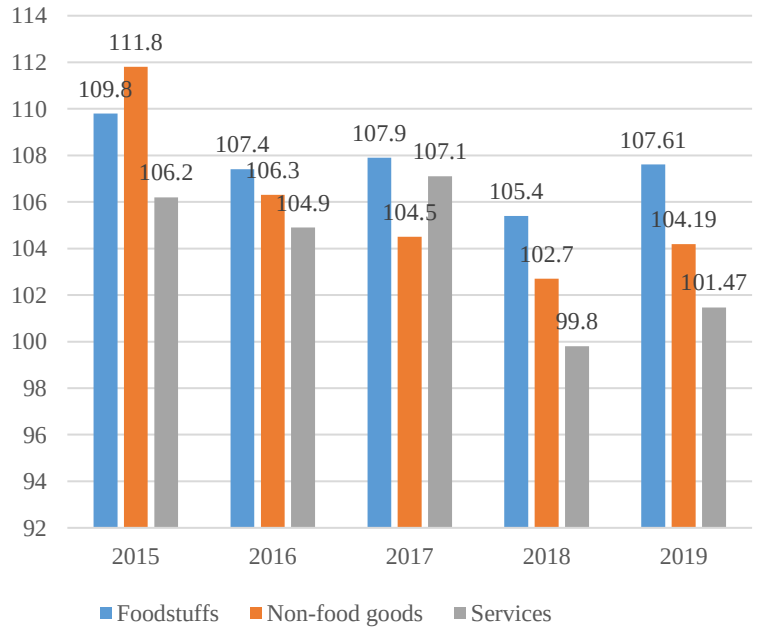

Figure 1. Elements of the consumer price index,%
Source: developed by the author based on [9]

During 2019, the annual rate of food prices recorded a sharp upward trend, which was mainly determined by the increase in contributions from the groups "fresh fruit", "meat, meat preparations and preserves", "Potatoes", "milk and milk products" and "milling products". The increase in prices for fresh fruits and potatoes was determined by a more modest harvest for these products, caused by unfavorable weather conditions in the summer of 2019. It should be noted that during 2019 inflationary pressures were recorded from processed goods. The increase in prices for these product categories was generated by the increase of production costs (wage costs, raw materials,

electricity, depreciation in annual terms of the MDL/USD exchange rate), but also as a result of a positive aggregate demand.

The core inflation rate in 2019 was 5.6%, similar to the CPI during 2019, core inflation remained on an upward trend, being fueled by the increase in aggregate demand. During October-December 2019, the core inflation index was 6.47%, up from the same period of 2018 by 3.8 pp. However, there is a decrease in the core inflationary pressure on the CPI towards the end of the year, an impact ameliorated by the appreciation of the real exchange rate of the national currency against the main reference currencies. The upward trend in the annual core inflation rate since the beginning of the year has been fueled by the maintenance of a high level of aggregate demand as well as rising prices in the subcomponent sectors, such as clothing, food, education and so on. [6, p. 29].

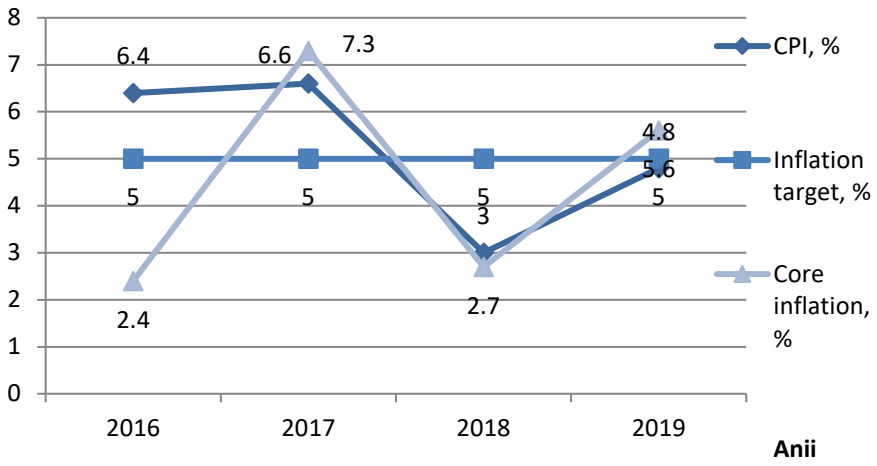

Figure 2. CPI and core inflation dynamics
Source: developed by the author based on [8]

The decreasing trend of core inflation, as it results from the data of figure 2, in 2018 was determined by the appreciation of the national currency against the main reference currencies as well as by the decrease of inflationary pressures from the CPI components. However, during this period, core inflation was also subject to inflationary pressures from the prices of its subcomponents, such as those for cigarettes and tourism services. The CPI compared to core inflation is higher in 2016 and 2018, while in 2017 core inflation exceeds the CPI by 0.7 pp. It is worth noting that this measure of inflation excludes the transitory effects on the CPI and largely reflects the inflationary pressures associated with excess demand. Core inflation continued to fall in the target range for more than a year.

The annual growth rate of industrial production prices in 2019 was 1.8%, which represents an increase in the growth rate by 1.4 pp. compared to the value of the respective indicator of the previous year. The acceleration of the growth rate of industrial production prices was supported by the increase of costs in the manufacturing industry which has a maximum contribution, fueled by the increase in energy and agricultural raw material prices. Prices for agricultural products increased at a fast pace at the end of 2019 both on international markets and domestically; the tendency was accentuated in the last case also by the dependence of the local agriculture on the climatic conditions. The annual index of prices for agricultural products was 3.8% compared to the previous year. A easing of inflationary pressures was visible in the case of fuel prices (whose annual rate decreased in 2019 by 4.57 percentage points to 2.3%), amid the downward trend in international oil prices and the appreciation of the real exchange rate. national currency against the main reference currencies [6, p. 30].

For 2018, we attest a considerable decrease of the prices in the industry, which also generated the reduction of IPPI from 3.3% to 0.4%. This evolution was generated by the decrease of the prices for the products delivered on the external market to -0.4%, as well as on the domestic one to 0.8%. In the first half of 2017, the annual rate of prices in the industry registered a slightly upward

trajectory, and later, starting with September, it recorded a downward trajectory. In December, the annual rate of prices in industry was 2.3%, being 1.7 pp. lower than in August 2017 and by 0.5 p.p. that of December 2016. The annual rate of the industrial production price index (IPPI) recorded, during 2016, a downward trajectory, thus, in December 2016, it was positioned at the level of 2.8 percent or 6, 3 percentage points lower than in December 2015. This evolution was influenced by both the dynamics of prices for products delivered on the external and domestic market.

The economic reality attests to the fact that there is no universally valid anti-inflationary solution, each country, depending on its needs, applies the tactics it considers most appropriate, taking into account the nature of inflation, its speed of propagation, its consequences, the type of economy , internal and external socio-political conjuncture, etc.

Among the theoretical approaches of anti-inflation programs we should highlight the concept of "supply economy", which makes it possible to address the additional inflation-related unemployment (which is characteristic of countries with economies in transition) (Table 1).

Table 1

Characteristic features of the "supply economy"

Comparison parameters	Characteristics
Purpose	Impact on aggregate supply
Touch methods	Measures that have a positive effect on current production: - improving the efficiency of the use of production factors; - improving the efficiency of resource allocation by reforming the financial system, the public sector, the labor market, etc .; - developing competition by eliminating trade restrictions, reducing subsidies; - reducing the "fiscal tax" by reforming the fiscal system - reducing the number of taxes, reducing tax rates, increasing the amount of tax benefits. Measures for a long-term increase in production growth: - stimulating savings and investments (transfer of savings to investments); - stimulating the entry of foreign capital in the economy; - creating new technologies; - changes in the field of education (support programs for employment, professional retraining, etc.) etc.
Deficiencies of conception	Fiscal incentives can only increase production in the long run. A reduction in taxes can lead to an increase in consumption and an increase in aggregate demand, exceeding the increase in aggregate supply (which can lead to an increase in inflation and a budget deficit). The return on the additional investment will not be received immediately. In practice, it is difficult to determine when tax rates have reached a critical value, therefore, when tax reforms are carried out, it is likely to make mistakes that involve a budget deficit, etc.

Source: developed by the author

However, in the countries of Western Europe and America, considerable experience has been gained in counteracting inflationary processes, indicating the opportunity for the combined use of short-term and long-term policies as shown in Table 2.

Table 2

The main features of short and long term anti-inflationary policy

Characteristics	Short-term policy	Long-term policy
Objectives	1) reducing the budget deficit. 2) temporary reduction of inflation by: - expanding the aggregate supply without increasing the aggregate demand; - decrease in demand with constant supply	– reimbursement of the inflationary expectations of the population; – reducing the budget deficit. – regulation of the monetary circulation process. – weakening of external factors
Solution methods	– privatization of state property. – mass sale of shares of new enterprises. – providing taxes and other benefits to real sector enterprises. – imported goods. – increase in interest rates on deposits (increase in savings rate)	– changing consumer psychology. – raising taxes and reducing government spending. – establishing strict limits on the annual increase of the money supply. – short-term government loans abroad to finance the budget deficit

Source: developed by the author

Today, a major problem is to combat inflationary expectations, these expectations, which are formed on the basis of ideas about previous inflation (adaptive expectations), lead to the phenomenon of inflationary inertia, when inflation continues to rise even in the absence of supply shocks and a deviation of unemployment from the natural level. According to the theory of rational expectations, economic agents form their expectations based on all available information, which is not limited to past experience. It is assumed that the loss of the state in the fight against inflation can be reduced if a plan for the implementation of the relevant policy is announced in advance (before the formation of inflationary expectations), as long as private actors have confidence in the effectiveness of this policy.

Theoretically, in order to counter inflation, the method of "shock therapy" recommended by monetarists can be used, allowing the rapid reduction of inflation with the help of a narrow monetary policy. To balance this method, the state can use the policy of gradualism, which is a method of gradually reducing inflation through a combination of demand reduction measures and supply stimulus measures as shown in Table 3.

Table 3

Distinctive features of the "shock therapy" method and the policy of gradualism

Comparison criteria	Shock therapy method	The policy of gradualism
The term of manifestation of a positive effect	The method is designed for a rapid decrease in inflation	The method is designed for a gradual, slow, gradual decrease of the rate of inflation
Applied measures	Monetary measures: - large-scale liberalization of the economy; - price exemption; - cessation of the economic activity of the state; - strict limitation of the increase of money supply; - balancing the budget by reducing social programs	Active state regulation: - supporting the most important industries; - fiscal incentives for business; - partial regulation of prices; - creating a market infrastructure
Shortcomings	Adherence to the method leads to an increase in unemployment, to a sharp decrease in the living standard of the population.	The state's anti-inflationary programs are long-term.

Source: developed by the author

Due to these circumstances, most states are trying to reach a moderate level of inflation. Some countries are trying to control the processes that take place by using adaptation measures.

The adjustment policy is based on the application by the subjects of the market economy of the different methods of adjusting the inflation, allowing to take into account the losses that occur by compensating them. An anti-inflationary policy, in turn, is a strategy for actively combating inflation. Adaptation policies (as well as anti-inflationary policies) can be accompanied by different types of monetary reforms: cancellation, denomination, devaluation and revaluation.

Table 4

Distinctive features of anti - inflationary policy and adaptation policy

Comparison criteria	Adaptation policy	Anti-inflationary policy
Objective	Control of the adapted processes and adaptation to them	Achieving moderate inflation
Essence	Strategy for adapting to inflationary processes	Active inflation strategy
Methods	Income indexation compensation	The set of methods depends on the type of anti-inflationary policy
Applied techniques	Income indexation, taking into account the dynamics of a predetermined index. Adjusted wage inflation. Contracting only for the execution of short-term projects. Looking for additional sources of income Attracting external sources of financing: shares, leasing, factoring. Changes in profit policy, etc.	Regulation of direct and indirect prices. Limiting the level of annual price increases for certain goods and services. Introducing restrictions of the central bank on increasing the money supply and lending volume. Increasing the discount rate of required reserves. Reduced fees. Implementation of government securities on the open market, etc.
Deficiencies	The time interval between the time of the price change and the payment adjustment. Inability to escape inflation	Each type of state anti-inflationary policy has its own disadvantages.

Source: developed by the author

Results obtained

When choosing a particular model of anti-inflationary policy, the Government should take into account the full range of state-specific circumstances. This leads to the idea that in world practice there are two ways to solve problems:
- a tough fight against inflation at state level;
- introduction of a complex of adaptation measures.
Adherents of recognized economic schools - keynesianism [7] and neoclassicism [4] identify as the main objective of the program to overcome inflation the research of the impact on the actual demand of economic agents as presented in the table 5.

Table 5

Typology of government anti-inflationary policies

Characteristic features of the state's anti-inflationary policy	The Keynesian approach	The neoclassical approach
The goal	Impact on actual demand	
The main directions	Active fiscal policy: - use of the tax regulation function; - handling government expenditures.	Monetary policy, which is carried out through the central bank: - changing the value of money in circulation; - changing the interest rate.
Regulatory methods used in excess of demand (recovery)	Increasing the tax burden. Reducing government spending	Deflationary measures: - increasing the interest rate on loans; - reducing the volume of money in circulation
Results	Reducing demand, reducing inflation	
Possible negative consequences	Limiting the increase of production, increasing unemployment, the possibility of stagnation and crisis in the economy	The negative consequences are less because the impact on the economy is indirect and more flexible.
Regulatory methods applied in conditions of insufficient demand (recession)	Reduction of the tax burden (mainly for low and medium income beneficiaries)	Reducing interest rates on loans. Increase the amount in circulation
Results	Stimulating demand, expanding production, reducing inflation	
Possible negative consequences	The use of budgetary methods can, on the contrary, strengthen inflationary processes (confirmed by international experience)	Stimulating economic growth and artificially maintaining jobs leads to a loss of control over inflation.

Source: developed by the author

Conclusions

Researching the relationship between inflation and its indicators of appreciation leads to the conclusion that controlling inflation should be one of the main objectives of economic policy in a developing economy. It is true that, in itself, rapid economic development can cause inflationary pressures. Therefore, one of the issues that needs increased attention from the authorities in a developing economy is the implementation of an effective anti-inflationary policy.

The main objective of anti-inflationary policy is to bring the growth rate of money supply in line with the short-term growth rate of the mass of goods (or real GDP) and the volume and structure of aggregate supply with the volume and structure of long-term aggregate demand.

In conclusion, we would like to mention that inflation is reflected in all areas of social and economic activity of society, so we mention that ensuring price stability and maintaining a low inflation rate is the most important objective of the National Bank of Moldova.

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INTERNATIONAL SPECIALZAITION OF BULGARIA AS PER LAFAY INDEX: CHALLENGES TO NATIONAL COMPARATIVE ADVANTAGES IN THE NEW COVID - 19 GLOBAL REALITIES*[52]

Julia Stoyancheva Stefanova, PhD[53]

Abstract:

The present paper aims to measure and analyze the changes in the trade specialization pattern of Bulgaria for the period 2001-2018. In theoretical aspect a juxtaposition has been made highlighting the differences and the links between classical (static) models of comparative advantages and contemporary (dynamic) models of competitive advantages of nations to reach complete and comprehensive evaluation of international economic specialization in international trade of small countries with open resource-intensive economy as that of Bulgaria. In methodological aspect the research paper analyzed Lafay index for measuring trade specialization of nations under conditions of rising share of intra-industry trade in added value chains of production. In practical aspects the research piece presents results from statistical analysis of international specialization of Bulgaria as per Lafay index for the period 2001-2018. The results of the empirical model point that for the analyzed period Bulgaria preserves comparative advantages in low-tech and resource-intensive economic sectors, which can not be a stable source of long-term and sustainable economic growth. Bulgaria remains in the group of technologically lagging countries. The paper evaluated potential consequences of pandemic Covid 19 crisis on trade specialization of Bulgaria and advanced some recommendations for overcoming negative impacts and boosting the effect from positive opportunities that Bulgaria faces.

Keywords: *trade specialization, Lafay index, comparative and competitive advantages, international trade, Covid-19*

JEL classification: *F10, F20, F49*

Introduction

Traditional theoretical models for international trade (availability theory, Kravis, 1956) focus on supply factors, with trade models reflecting differences in production opportunities and the geographical distribution of natural resources (Hirsch, 1974) and other resources, as differences in prices and costs that determine the comparative advantages of countries and the structure of their trade ("surplus model of trade", Caves, 1965). In these theories, human capital is presented as an asset with a certain return, measured by the present value of income above the minimum wage (Kenen, 1968) (or by the average wage) in an industry (i.e. the transition from a model of trading in capital-intensive products to those requiring highly qualified skills). Thus, traditional theoretical models of absolute and comparative advantages are complemented by models of competitive advantages in international business (Porter, 1990; Hunt & Morgan, 1995), ensuring the comprehensiveness of the analysis of factors for the competitiveness of countries in international business**.**

[52] * The present research is part of a completed joint research project at Economic Research Institute of the Bulgarian Academy of Sciences, see: https://www.iki.bas.bg/en/bulgaria-in-international-economic-specialization

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According to a study by the International Trade Center (2010), trade specialization is a good indicator of a country's economic specialization, with higher levels of specialization countries report higher GDP growth and better adaptation of their export profile to change in the global demand model. According to the IMF (2019), achieving sustainable economic growth requires structural changes, which are associated with the reorientation of factors of production from extractive sectors to industry and services. The stages of diversification according to Imbs & Wacziarg (2003) are associated with the formation of a U-shaped relationship between specialization and income: at low income countries start with diversification and after reaching a high level of per capita income - to re-concentration/ specialization of production. For Imbs & Wacziarg, the explanation for this relationship is through Ricardo's trading model of increasing productivity with diversification and reducing trade costs with the concentration of production.

An important feature for countries achieving long-term economic growth according to MsKinsey report (2019) is the provision of macroeconomic stability even during global fluctuations and a sufficiently high degree of export orientation. In addition to macroeconomically favorable conditions ıнclude significant institutional resilience, measured by the components of the World Bank's Institutional Performance Index (e.g. regulatory quality, order and law, etc.). In microeconomic terms, leading companies in exports rely on innovative leadership, realizing over 50% of their revenues from the introduction of new products and services (measured by the number of issued patents).

Under conditions of market imperfections, according to Neary (2003), a transition from the model describing the framework of comparative advantages of nations to a general equilibrium model of competitive advantages of the countries is necessary. Such a model presumably requires the presence of competitive markets with low barriers to entry and/or the presence of a large number of firms operating in this market and providing absolute advantages to economic agents due to natural conditions or trade measures (e.g. low taxes, etc.); degree of labor market flexibility. For Porter (1990) the application of the model of competitive advantage at the company level through different product differentiation strategies leads to the realization of sustainable competitive advantage in the long run due to specific company factors leading to value generation and benefits (economic, social, environmental, etc.). .n.). The group of these specific company factors (Hunt & Morgan, 1996) includes financial, physical, legal, human, organizational, informational etc., providing dynamic advantages on a national scale (i.e. the so-called "Porter's diamond" in the framework of the dynamic model of competitive advantages).

For resource-intensive economies such as Bulgaria, it is important to increase productivity in sectors with a comparative advantage in the production of goods and a transition upwards in the production value chain. An empirical study by UNCTAD (2015) found that if the share of industrial exports increased by 1 percentage point, poverty rate would fall by 0.011 percentage points on average for the sample of developing countries by encouraging diversification in and among different economic sectors. This creates positive externalities in the course of diversification in industrial sectors (Greenway, Morgan & Wright, 1999) through the formation of inter- and intra-industry links. According to an IMF study (2019), diversification in production and export structure is an important determinant of achieving sustainable economic growth, especially in low-income countries, and this is confirmed in a UNCTAD study (2018). For 144 developing countries (including sub-Saharan Africa) for the period 1970-2015, the study found that trade is associated with diversification in a short period of time, but in the long run the intensity of trade leads to concentration and therefore the benefits of diversification require active macroeconomic policies to avoid so-called “Dutch disease” (Sachs & Warner, 2001), in which the consequences of the concentration in the export of certain resources are due to high fluctuations in the volume of production, deteriorating trading conditions and low productivity growth.

In the context of the post-pandemic effects of the Covid - 19 crisis, expectations are for deepening of regional fragmentation in global supply chains within national economies. This will inevitably slow down globalization (the so called “slowbalization”effect) and renew interest in the concept of "country of origin" of goods due to existing restrictions on outsourcing/offshoring of production to

achieve competitive advantages due to significant costs/barriers to trade and production abroad. Very important consequences of these processes will be to assess in the future the impact of trade processes on the natural environment and in particular the emission of carbon gases in order to measure the value of carbon components in each of the demand factors (consumption, investment, export). Determining the carbon content requires assessing the effects at different stages of production, not just the emissions from exports and imports. The “Beyond GDP” initiative aims to assess the state of the economy, which ensures environmental sustainability beyond the macroeconomic approach to analysis through the development of environmental accounting standards.

Description of the Problem

The changes in global trade flows in the current Covid - 19 pandemic crisis require adaptation of the pattern of specialization of nations and modification in the national foreign economic policies for maintenance and boosting of national competitiveness. The present report aims to determine the divergence or convergence in trade specialization patters of Bulgaria in the pre-accession period to the EU (2001 - 2007) and in the period after the global financial crisis up the current Covid-19 realities and to formulate conclusions regarding tendencies and consequences. According to the National Strategy for Intelligent Specialization 2014-2020 of Bulgaria are identified industries with potential for medium to high-tech production of goods such as: medicines, ICT, machinery and equipment, metal products, mechatronics and clean technologies, creative and recreational industries, biotechnology, nanotechnology, food technology. The document identifies the comparative and competitive advantages of the production and export specialization of Bulgarian productions in over 80 product groups through the Balassa index, which cover over 70% of Bulgaria's exports.

A novelty of the research approach in the present paper is the application of an alternative index, namely the Lafay index to determine the competitive advantages of Bulgaria for the analyzed research period, as Lafay index overcomes some of the methodological disadvantages of the Balassa index in determining trade specialization patterns. Structural constraint for Bulgaria remains the small Bulgarian economy, despite the high degree of openness (over 110% as of 2011 compared to the EU average of 27.39%). According to a study by Inotay (2013) determinant of the size of the market are the incomes of the population, which in Bulgaria remain the lowest for the EU-27 and therefore the economy is not able to take advantage of technology transfer as a result of the openness of the Bulgarian economy given its low competitiveness and weak production base (Tasev, A., 2012).

The global Covid-19 pandemic crisis is expected to lead to a decrease in the number of active SMEs in Bulgaria (so far by about 15%) against the background of rising unemployment in the country and the fact that in Bulgaria the number of active SMEs is declining at the fastest pace for the EU - 28 (6.8%) for the period 2012-2015. It is encouraging that with the increase of digitalization of the offered public services after the pandemic crisis, a reduction of the administrative burden for SMEs with active trade activity and improvement of access to public procurement can be expected and an increasing level of transparency of procedures. The shrinking investment costs and declining export revenues will further limit the potential for R & D & I and deepen regional imbalances in R & D in the country towards reverse convergence (i.e. divergence) and convergence with the level of lagging countries and regions in the EU, which is reinforced by the processes of deindustrialization in the context of growing shares of services in the digital economy of the 21st century.

Methodology and Data

The present paper analyzes the trade specialization of Bulgaria with the application of the Lafay Index. This index includes variables for trade and production, eliminating the impact of macroeconomic variables. Thus, customs tariffs and other safeguard measures on imports, subsidies or voluntary export restrictions on exports lead to the distortion of trade measures. According to Lafay, among the important favorable factors for the acquisition of comparative advantages in a country are: 1) abundance of natural resources; 2) low relative production costs, which correspond to the macroeconomic conditions and the level of productivity of the factors of production; 3) low relative costs through innovations in the production process and/or use of monopoly advantages at microeconomic level.

The extended formula of the Lafay Index is:

$$LI_{ij} = \left(1000.\frac{X_{ij} - M_{ij}}{Y_i} \right) - \left(\frac{X_{ij} + M_{ij}}{\sum j(X_{ij} + M_{ij})} . \frac{1000 \sum j(X_{ij} - M_{ij})}{Y_i} \right) \quad (1)$$

Representing the index in abbreviated form:

$$LI_{ij} = \frac{1000}{Y_i} . \frac{2(X_{ij}M_i - X_iM_{ij})}{X_i + M_i} \quad (2)$$

The Lafay index (LI) includes total GDP, thus avoiding the problem of classification. In addition, this index is characterized by the requirement for symmetry of the distribution, but the empirical distribution generally has a right-hand tail. A country i has a comparative advantage in trade with a given commodity when LI ij> 0, and the neutral point of the index is when the net export = 0. The algebraic sum of the LI points of a given country is always 0, ie:

$$\sum_j LI_{ij} = 2000 . \frac{M_iX_i - X_iM_i}{Y_i(X_i + M_i)} = 0 \quad (3)$$

The above formula assumes that the distribution in a Lafay index of a country can take into account intra-industry flows by using import and export variables and control the deviation in macroeconomic factors by the GDP variable. In addition, the International Trade Center uses Lafay index and Balassa index (BI) as measures of trade specialization. Taking into account imports and exports, LI corrects the possible deviation in BI regarding the competitiveness of a country.

The application of the Lafay index in the present empirical analysis follows the Galtonian regression methodology (Hart et al., 2001) to examine the structural changes that occur in trade specialization in Bulgaria for the period 2001-2018. The main directions in which the increase in exports is associated with an increase in overall productivity and economic growth are expected to be: 1) an increase in the comparative advantages in the specialized sectors and growth in GDP; 2) dynamic benefits from trade with increased investment, growth in productivity and prosperity (in the direction of reducing poverty and inequality).

Using Bayesian Model Averaging, the IMF (2019) found that significant factors limiting the benefits of countries' export diversification are: the size of the economy and the abundance of natural resources, controlling the effect of such variables as the quality of institutions. For countries that realize significant benefits from higher export diversification, the IMF model finds that the following factors have a statistical significance in the following order of importance: 1) a higher level of human capital development; 2) greater openness to trade; 3) high quality of institutions 4) developed financial sector; 5) developed infrastructure (including internet connectivity); 6) opening of the capital account for investments.

In order to overcome the fluctuations in the normal distribution of the residual values of the standard errors, the empirical analysis follows a logarithmic and Box-Cox transformation to achieve a normal distribution in the standard errors and tests to establish the normality of the distribution are followed (e.g. Shapiro - Wilk W test etc.).

The following regression equation is used in the present analysis:

$$LFI_{ij}^{END_t} = \alpha_i + \beta_i LFI_{ij}^{START_t} + \varepsilon_{ij}, \quad (4)$$

to test the changes in the model of trade specialization of Bulgaria, where START and END represent the selected points in time, αi and βj are the standard linear regression coefficients, and ε_ij is the standard error. In the regression model, the distribution of the Lafay index at the end of the study period (i.e. 2018) is the dependent variable, and the distribution of the same index at the beginning of the study period (i.e. 2001) is the independent variable, while the year 2007 of Bulgaria's accession to the EU is a fictitious (dummy) variable.

The purpose of the regression analysis is to establish how similar or different are the distributions in the Lafay index at two points in time (2001 and 2018), and thus to determine the stability and convergence/divergence in the trade specialization of Bulgaria during these two selected periods (i.e. the pre-accession process to the EU and in the post-crisis period after 2008).

The hypotheses formulated in the regression analysis are:
a) H0: in the model of trade specialization of Bulgaria for the period of time (2001 - 2018) there is no structural change in respect of the analyzed commodity group;

b) H1: in the model of trade specialization of Bulgaria for the above-selected time period there is a structural change in respect of the commodity group

Data source: The data on exports, imports and other variables in the model needed to calculate the Lafay index were obtained from the International Trade Center (www.intracen.org) and are based on the Harmonized System 2 level of aggregation (which includes a total of 98 sector). The country's GDP data for the respective years are based on the IMF WEO database. The following product groups were selected for analysis:

- Electrical machinery and equipment and parts thereof (code 85);
- Machinery, mechanical appliances, nuclear reactors, boilers, parts thereof (code 84);
- Mineral fuels, oils and products for their distillation (code 27);
- Vehicles other than railway or other rolling stock (code 87);
- Pharmaceutical products (code 30);
- Furniture, etc. (code 94);
- Shoes, etc. (group 64).

Results

The first stage of the empirical analysis presents the following results of descriptive statistics for data in the selected commodity groups:

Table 1

Descriptive statistics of Lafayette index data by analyzed commodity groups

	Electrical machinery and equipment and parts thereof (code 85) (first differences of Lafayette index)	Mineral fuels, oils and products for their distillation (code 27) (logarithm of the Lafayette index)	Machines, mechanical appliances, nuclear reactors, boilers, parts thereof (code 84) (first differences of Lafayette index)	Vehicles other than railway or rolling stock (code 87) (first differences of Lafayette index)	Pharmaceutical products (code 30) (first differences of Lafayette index)	Furniture, etc. (code 94) (logarithm of the Lafayette index)	Shoes, etc. (group 64) (logarithm of the Lafayette index)
Average	-0,77588	3,2717	-0,56882	-0,89294	-0,0076471	1,4727	1,0299
Median	0,54000	3,2418	-1,3900	-0,010000	0,060000	1,6144	1,0558
Minimum significance	-19,920	2,2083	-27,050	-21,390	-3,7600	0,42527	-1,2730
Maximum significance	22,080	3,8967	23,800	11,210	2,9300	1,9988	2,4723
Standard deviation	8,3253	0,45137	9,3109	6,4573	1,6603	0,42643	1,0805
Coefficient of variation	10,730	0,13796	16,369	7,2315	217,11	0,28956	1,0491
Asymmetry	0,32651	-0,64047	-0,32376	-1,6256	-0,35528	-0,91070	-0,65717
Kurtosis	2,9983	-0,077852	4,4700	4,6368	0,014629	-0,023086	-0,13830
Interquartile distance	4,1100	0,69436	4,8000	3,9300	2,2250	0,68964	1,3864
Missing values	1	0	1	1	1	0	1

Source: author's own calculations

From the above table it is clear that a moderately asymmetric distribution of the Lafay index was established for commodity groups: 27, 30, 94 and this confirms previous empirical studies that the distribution of the analyzed index is not characterized by normality of the distribution. From the analysis of the arithmetic mean value of the Lafay index from Table 1 above it can be concluded that Bulgaria achieves a comparative advantage in commodity groups 27, 94 and 64, where the arithmetic mean value is greater than the neutral point 0 of comparative advantage. These results are confirmed in a study of Georgiev and Velushev (2018), who apply an index of the revealed comparative advantages of Bulgaria's tradable goods according to the Harmonized System for the period 2007-2016. On the other hand, Bulgaria reports no comparative advantage with negative values of the analyzed Lafay index in the other analyzed commodity groups (30, 84, 85, 87). These results are also confirmed in the study of Georgiev and Velushev (2018).

The results of linear regressions of Lafay index for the commodity groups for which a comparative advantage was identified are as follows:

Table 2

Least squares model
Dependent variable: logarithm Lafay Index for commodity group Minerals

	Coefficient	Standard Error	t-test	p-value	
const	0,770070	0,541051	1,423	0,1782	
time	-0,00194276	0,0191367	-0,1015	0,9207	
dummy_EC_accession	−0,411650	00,130140	-3,163	0,0075	***
Simple definition coefficient	0,591458		Adjusted R-squared	0,497179	
F(2, 13)	3,100334		P-value(F)	0,000362	
Log-likelihood	-2,722727		Akaike information criterion	13,44545	
Bayesian Schwartz information criterion	16,77831		Hannan-Quinn	13,77675	
rho	0,218415		Durbin-Watson	0,218415	
Correlation coefficient: 0,4218 (time) -0,1169 (dummy_EC_accession)					

Source: own calculations

As can be seen from Table 2 above, 0 <β <1, without being statistically significant, hypothesis H1 is confirmed, for a change in the established comparative advantage in the commodity group Mineral fuels, oils and products for their distillation (code 27) by 2018 compared to 2001 (p-value 0.000362 < 0.05), in the direction of deterioration compared to the initial analyzed period. The dummy variable 2007 (indicative of Bulgaria's accession to the EU) turned out to be statistically significant for the change in the trade specialization in commodity group 27.

Table 3

Least squares model
Dependent variable: logarithmic values Lafay Index for commodity group Furniture

	Coefficient	Standard Error	t-test	p-value	
const	1,17364	0,354262	3,313	0,0056	
time	0,0317272	0,0247809	1,280	0,2228	
dummy_EC_accession	−0,575413	0,151673	−3,794	0,0022	***
Simple definition coefficient	0,231007		Adjusted R-squared	0,112700	
F(2, 13)	30,11486		P-value(F)	0,000013	
Log-likelihood	-7,374378		Akaike information criterion	20,74876	
Bayesian Schwartz information criterion	23,06652		Hannan-Quinn	20,86744	
rho	0,973578		Durbin-Watson	0,973578	
Correlation coefficient: 0,2970 (time) - 0,1169 (dummy_EC_accession)					

Source: own calculations

As can be seen from Table 3 above, β < 1, without being statistically significant, hypothesis H_1 is confirmed, for a change in the established comparative advantage in the commodity group Furniture (code 94) as of 2018 compared to 2001 (p-value 0.000013 <0.05), and reported a slight improvement compared to the initial analyzed period. The dummy variable 2007 (the year of Bulgaria's accession to the EU) turned out to be statistically significant for the change in the trade specialization in commodity group 94.

Table 4

Least squares model
Dependent variable: logarithm Lafay Index for commodity group Footwear

	Coefficient	Standard Error	t-test	p-value	
const	2,98398	0,193893	15,39	1,01e-09	
time	−0,202039	0,0254577	−7,936	2,44e-06	
dummy_EC_accession	−0,0703542	0,0831880	−0,8457	0,4130	***
Simple definition coefficient	0,887796		Adjusted R-squared	0,870533	
F(2, 13)	53,08837		P-value(F)	5,56e-07	
Log-likelihood	-4,995888		Akaike information criterion	15,99178	
Bayesian Schwartz information criterion	18,30954		Hannan-Quinn	16,11046	
rho	0,772363		Durbin-Watson	0,575070	
Correlation coefficient: -0,9523 (time) -0,1169 (dummy_EC_ accession)					

Source: own calculations

As can be seen from Table 4 above, 0 <β <1, and is statistically significant, confirming hypothesis H1, for a change in the established comparative advantage in the commodity group Footwear (group 64) as of 2018 compared to 2001 (p-value 5.56e-07), and reported deterioration compared to the initial analyzed period. The dummy variable 2007 (Bulgaria's accession to the EU) did not turn out to be statistically significant for the change in the trade specialization in commodity group 64.

Based on the empirical analysis above, it can be noted that Bulgaria has not yet made the transition to technology-intensive industries and remains in the group of technologically lagging countries. In this sense, such technological backwardness cannot be expected to provide an opportunity for a technological leap with the introduction of the most advanced technologies (the so-called "advantage of backwardness" phenomenon, ECB, 2003). Despite the significant investments in the course of Bulgaria's EU membership in the global value chains after 2007, with the demographic crisis and the significant outflow of highly qualified labor resources from Bulgaria during 30 years of democratic transition, the country fails to take advantage of the beneficial effect technological leap, similar to the CEE countries (ECB, 2003). Applying the theoretical postulates of the product space framework, Bulgaria can achieve successful trade specialization through a diversification strategy in closely related product groups from the export basket with a revealed comparative advantage for a period of more than five years. The process of structural transformation in developing countries such as Bulgaria is strongly influenced and dependent on the production conditions according to the theoretical framework for the product space. Therefore, empirical research has found (UN Industrial Development Organization, 2018) that in relatively poor countries, improving the business environment and regulatory framework supports the ability to overcome limited static comparative advantages and to implement strategies of radical product diversification.

Conclusions

In conclusion, the application of statistical regression analysis of the Lafay index establishes a comparative advantage of Bulgaria in three commodity groups, including mineral fuels, furniture and footwear for the period 2001 - 2018, which are confirmed in other empirical studies in Bulgarian authors (see Georgiev and Velushev, 2018). In addition, a least squares stability test (quantile regression, not included in the present paper) confirmed that Bulgaria reported divergence in the model of trade specialization in these three commodity groups at the end of the analyzed period, and such a deterioration in the Lafay index is explained not only by existing institutional constraints in the business environment, but also by the impact of the global financial and economic crisis and the European debt crisis after 2008. In the three analyzed commodity groups, Bulgaria's accession to the EU turned out to be a statistically significant independent variable for the comparative advantage of Bulgarian trade (in the direction of divergence), which is a confirmation of the effect of "trade diversion" and increasing competitive pressure, especially in the commodity groups of mineral fuels and footwear.

The high levels of perception of corruption in the business environment in Bulgaria and the deterioration of the democratic and legal state have a particularly unfavorable effect on the commercial competitiveness of Bulgarian SMEs. Freedomhouse (2020) defines Bulgaria in the category of semi-structured democracies, while the Corporate Europe Observatory (2019) analyzes the weaknesses in economic development in the "captured" countries. Bulgaria remains in one of the last positions in the Forbes ranking (Best Countries for Business, 2019) due to high levels of corruption, weaknesses in the judiciary, organized crime etc. Improving regulatory quality can encourage exports to industries that use a variety of inputs (such as metals, electronics) by about 5%, total imports by about 3% and accelerate integration into global value chains according to the OECD (2014).

In this sense, among the risks that create threats and opportunities for developing peripheral countries such as Bulgaria from technological backwardness (divergence) can be identified: 1) increasing unemployment in the segment of low-skilled labor with increasing the degree of digitalization of the economy within Industry 4.0 (for example, increasing production efficiency is associated with a reduction in employment of around 50% in all sectors in developing countries in Asia, other things being equal, WTO et al., 2019) and the potential for increasing income inequalities, social stratification and disrupt the potential for future social cohesion; 2) at the same time, a further increase in the relative demand for highly skilled labor in R & D & I activities within GVS is expected (Frederick et al., 2018), which imposes a policy of retaining highly skilled workers in Bulgaria (Hristova - Balkanska, I. , 2012) and in this sense the free movement of labor resources in the European Union raised the issue of the shortage of medium and highly qualified personnel in the country (Rangelova, R., 2017); 3) the need to rethink Bulgaria's potential for smart specialization within existing production chains and improve their production efficiency, improved access to finance for SMEs and promote strategic prospects for the formation of unique key competencies and competitiveness of Bulgarian SMEs in the aftermath of the Covid-19 new realities. The key to achieving export-oriented growth and sustainable competitiveness is productions in the middle and high-tech segment, defined as a driving force for sustainable exports for small countries with open economies.

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SECTION III. SUSTAINABLE DEVELOPMENT AND INCLUSIVE ECONOMIC GROWTH

IDENTIFICATION OF SOME MODALITIES OF ASSESSMENT AND MANAGEMENT OF THE ENTERPRISES SUSTAINABILITY RISK

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Abstract:

Economic growth can often conflict with environmental and social issues. This aspect can be seen not only at the macroeconomic level, but also at the microeconomic level, implicitly at the company level. However, companies can find approaches that might allow them, in addition to economic development, also the social welfare and environmental conservation. The risks are of course reformulated at this juncture, and the enterprises must find the most efficient ways to manage besides the classic risks, highlighted by theory and practice, also the environmental and social risks. In this context, the article aims to present some possibilities for evaluating and managing these risks, starting from the model Conan and Holder (1979).

Keywords: *corporate sustainability, social and environmental risks, social and environmental management system, enterprise risk management*

JEL classification: *G32, A13, M14, M21*

Introduction

Risk is a complex concept, multidimensional with quantitative connotations, but especially qualitative, difficult to synthesize numerically. Of course, the acceptable level of risk for a company is determined according to the risk attitude of the manager and the shareholder as well as the operating conditions of that economic activity. Therefore, the maximum acceptable level of risk is most likely the level that allows the costs of the company to be covered and to obtain a minimum profitability.

Among the risks that a company may face are the financial risk, the commercial risk, the managerial risk, and in the case of contracting the investment bank loans, there is also the guarantee and the sensitivity risk. The management of these risks, as well as others, identifiable or less identifiable (e.g. reputational risk, some aspects of the operational risk), at the company level, is called the enterprise risk management.

It should be noted that these risks can be thought of as coming from the micro and / or macroeconomic level. At the microeconomic level, risks are generally generated by the inflow of income and the expansion of some expenses or unforeseen expenses. At the macroeconomic level, frequent and unclear legislative changes, especially in the fiscal sphere, as well as the economic, social, environmental and political imbalances of the national economy can lead to a serious impairment of the company's activity.

In the context of discussions on sustainability, enterprise risk management should contain both information, and especially methods of avoiding / mitigating risks such as risks of natural disasters, climate change, ecosystem risks, political risks, epidemiologic risks, globalization risks, risks regarding social justice etc.

Currently, companies can no longer overlook the complexity of the impact of economic, social and environmental aspects, and these realities are gradually included in the concept of risk management of companies' sustainability. If at the microeconomic level the risk is easier to detect, having as a possible cause the manifestation of recurrent economic, social and environmental

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problems, at the macroeconomic level, except for the modification of the law regarding the activity of the company, the risk on the company is rather indirect and more difficult to identify, except the situation when the risk hits everyone similar (e.g. epidemiologic risk).

Therefore, the risk attached to sustainability can be thought of as incorporable in the risks presented above, capable of modifying the intervals of risk interpretation or it can be considered as an additional risk, distinct from these and summed up in the total risk of the company. This differentiation can be achieved depending on the availability and ability of the company to move to a business model assignable to the circular economy.

At the same time, it is worth noting that companies are facing a decisive paradox: if they pursue the objectives of profitability, ignoring social and environmental responsibility, they will be charged sooner or later for competition and will see their profit diminished or even close their business. If they take into account the immediate integration of social and environmental aspects into their business without a phasing, they may suffer irreparable losses in the near horizon, which may even lead to bankruptcy. However, in order to achieve valuable long-term goals, companies must convince the shareholder that they want short-term results to see the medium-term and long-term benefits for the company and therefore invest in long-term value creation. Thus, increasing the ability of a company to properly manage, inter-temporally, the risks of the sustainability of companies is the central point of our analysis.

Description of the Problem and Literature review

The specialized literature but also the risk managers are increasingly addressing the issues of business sustainability, business sustainability management, the risk of business sustainability and concerns of administration of these risks through the enterprises sustainability risk management (ESRM).

This concept is rather a new paradigm, because it is intended to be an alternative to the classic, traditional, growth and business management and maximizing profit model. Thus, although it continues to focus on corporate economic profitability and the risks associated with it, ESRM pursues above all the risks associated with sustainable development such as justice and social equity, environmental protection. Practically, the literature of this term summarizes, among others, concepts such as: corporate social responsibility, (European Commission, 2002), sustainable development (Brundtland Report and subsequent literature developments), the triple bottom line (Elkington, 1999), corporate sustainability (Dyllick and Hockerts, 2002, Schaltegger et al., 2002, Visser, 2007). Thus, the concept of managing the risk of enterprise sustainability (ESRM) is based on the concept of "triple bottom line" (see figure 1) and also includes strategic and cultural dimensions of business management (Yilmaz and Flouris, 2010).

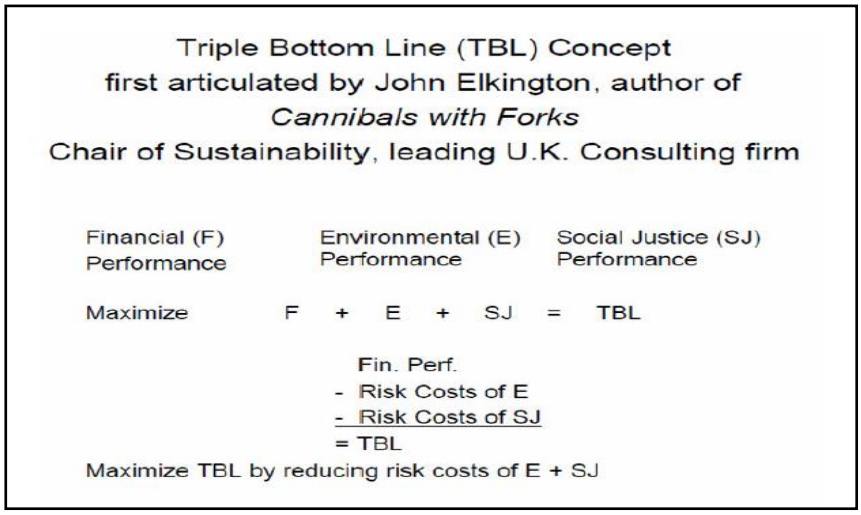
Triple Bottom Line (TBL) Concept
first articulated by John Elkington, author of
Cannibals with Forks
Chair of Sustainability, leading U.K. Consulting firm
Financial (F) Performance
Environmental (E) Performance
Social Justice (SJ) Performance
Maximize F + E + SJ = TBL
Fin. Perf.
- Risk Costs of E
- Risk Costs of SJ
= TBL
Maximize TBL by reducing risk costs of E + SJ

Figure 1 - The concept of triple bottom line according to the enterprise sustainability risk management

Source: Anderson, 2006, în lucrarea lui Yilmaz și Flouris 2010, p. 167

However, the concept of enterprise sustainability risk management (ESRM) is not currently clearly defined, with aspects that exclude different characteristics, especially regarding the integration of the environmental and social dimensions. Even the concepts outlined above, such as corporate social responsibility or the triple bottom line, do not really describe sustainability, but rather the responsibility, lacking the inter-temporal trade-offs (Bansal and DesJardine, 2014).

Methodology and Data

The article aims to formulate a possible way of identifying and evaluating the risks associated with the sustainability of companies from an original perspective. The approach is theoretical and logical, and the starting point is the model Conan and Holder (1979) for evaluating the risk of bankruptcy. At the same time, for the distinct approach of economic and social risk management (E&S risk management) we will use the information of the European Bank for Reconstruction and Development (EBRD) instrumentation, systematizing them in a personal way.

Results

The global economic and financial community is becoming increasingly aware that the environmental and social problems associated with human activity, in general, but especially with commercial activity, can create risks for a business, but also for the community it belongs to.

Thus, environmental and social problems can generate delays in production at the company level, problems associated with the revocation of operating licenses, difficulties in managing cash flow, unforeseen expenses, difficulties in accessing bank loans and not least negative publicity.

In this context, through its activities, a company must be able to promote the principles of sustainable development and to implement social and environmental risk management systems to limit its own exposure to these risks. The risks may be of the company concerned, direct or indirect, generated by its suppliers or customers.

The risks can be internal, of firm, or external, spilling from the social, economic, political and environmental sphere on the company. If the internal risks can be managed with some efficiency by the company, the external risks can be unpredictable, sudden and powerful, difficult to quantify and manage. Awareness of the problems and the preventive management, but also the management of the environmental and social risks properly carried out from the initial phase, can improve the reaction of the companies to the production of some unforeseen environmental and social events.

Failure to manage social and environmental issues effectively can lead to financial, reputational and legal implications. Among the financial implications we can identify: - costs incurred for the decontamination and remediation of the equipment affected by contamination (especially in industries such as mining, processing, chemical, pharmaceutical, oil, gas, etc.),

- Lower value of assets, - low labour productivity,

- Increase of personnel costs, including those related to accidents at work,

- Costs associated with the payment of fines or strict compliance with the regulations in the field.

Regarding the reputational implications, we can identify, against the background of the deterioration of the image of the company and its products: the decrease of sales, the loss of customers, the loss of some suppliers, the increase of the costs related to the recruitment and maintenance of personnel, and in case of the need of a credit, the difficulty of access and / or decrease the value of the collateral.

Among the legal elements that have an impact on the company that can affect the company are:

- Legal obligations determined by waste disposal and restoring the situation before an environmental event,

- Fines and payment of damages generated by the legal liability for the deterioration of health,

- The environment or the property, going until the withdrawal of the operating licenses and the closing of the activity.

All of these can be a good motivation for integrating environmental and social aspects into a company's risk management. These aspects can be evaluated quantitatively, value or can be qualitatively evaluated.

It is worth noting that in order to achieve a proper management for a company, it is necessary to know the model or paradigm of the operation of the company, for example if the company has a strong inclination for the circular economy and for an adequate management of environmental and social risks (ESR) then we can consider that the whole mechanism of its operation, from the administration and processing of raw materials to distribution and profit, integrates these risks, or if, on the contrary, the company is still in an incipient phase in realizing these risks, perceiving and evaluating them as distinct risks. Thus, starting from Conan and Holder's (1979) model of bankruptcy risk assessment we can construct the following equation:

$$TR = FR + CR + GR + MR + SR + ESR \quad (1)$$

Where: TR = FR + CR + GR + MR + SR is the equation Conan and Holder (1979).

RT - total risk

RF - financial risk

RC - commercial risk

RM - managerial risk

RG - collateral risk, for the bank credit situation

RS - the sensitivity risk, only for the situation of some investment credits

ESR - environmental and social risk, the risk subject to our analysis

In our study, the most analysed risk is the environmental and social risk (ESR). Thus, considering the availability, but especially the ability of a company to have an integrated environmental and social management system (ESMS), we can consider the existence of the following situations (see table 1).

Table 1

The connection between the legal compliance situations with the standards regarding the environmental and social management system (ESMS) and the quality of the management, as well as the classification in risk categories and their scoring

Legal compliance with the standards regarding the international environmental and social management system	Quality of management	Risk category	Score offered (maximum)
The company complies with international environmental and social standards, i.e. more than three quarters of operations are certified according to at least one international standard, has ESMS objectives and periodically evaluates progress; disseminates information appropriately	Excellent	Very low risk	50
The company can be certified at the level of an international ESMS standard; sets goals in this regard and internally evaluates progress; disseminates information appropriately	Good	Low risk	35
The company has partial coverage of environmental and social risks and has limited commitments regarding compliance with ESMS; limited dissemination of information	Satisfactorily	Moderate risk	28
The company does not have an ESMS or does not provide information about it	Poor	High risk	7

Source: Authors' own concepts based on the European Bank for Reconstruction and Development tool on environmental and social risk management

In the situation of an excellent or very good level of compliance with international law we can consider that the risks related to environmental and social problems are low and assimilated to the other risks of the company, so perfectly integrated into them, increasing modestly the risk margins from the original Conan and Holder model.

In the other three cases, we will present a vision about a possible qualitative assessment of the environmental and social risk and its management (table 3). It should be mentioned that the environmental and social risk is in fact the result of the two types of risk elements pursued: environmental and social, so first it must be developed an aggregate risk model that can be evaluated as in table 2.

In addition to the qualitative assessment methods, it can be built indicators that will also quantitatively reflect the above aspects such as:

- Weight of raw materials that comply with the requirements of the environmental and social management system in the total volume of raw materials;

- Share of the number of employees involved in ESMS training programs in total employees,

- Weight of the number of products that meet the ESMS requirements in the total volume of products,

- The weight of the number of programs targeting ESMS at the community level in the total number of programs offered to the community, etc, of course aiming at increasing these weights from year to year.

Table 2

Qualitative highlighting of the aggregation of environmental and social risk elements

Environmental risk	**Low Risk**	x	x	x						
	Moderate Risk				x	x	x			
	High Risk							x	x	x
Social risk	**Low Risk**	x			x			x		
	Moderate Risk		x			x			x	
	High Risk			x			x			x
Environmental and social risk	**Low Risk**	**x**	**x**		**x**					
	Moderate Risk			**x**		**x**		**x**		
	High Risk						**x**		**x**	**x**

Source: authors' own conception, x - classification in the risk category

Table 3

The connection between highlighting the elements of environmental and social risk and the quality of the management, as well as the classification of risk categories and their scoring

Risk elements	Level of compliance	Quality of management	Risk category	Score offered (maximum)
Environmental risk				
Matching raw materials and technologies (inputs) with ESMS	High	Good	Low Risk	5
	Adequate	Satisfactorily	Moderate Risk	4
	Limited	Poor	High Risk	1
Compliance of final products and services and externalities (outputs) with ESMS	High	Good	Low Risk	5
	Adequate	Satisfactorily	Moderate Risk	4
	Limited	Poor	High Risk	1
Social risk				
Personnel training on environmental and social risks	High	Good	Low Risk	5
	Adequate	Satisfactorily	Moderate Risk	4
	Limited	Poor	High Risk	1
Shareholders' commitments regarding compliance with ESMS requirements	Firm / Yes	Good	Low Risk	5
	Formalized / Maybe	Satisfactorily	Moderate Risk	4
	Reactive / No	Poor	High Risk	1
Providers compliance with ESMS	High	Good	Low Risk	5
	Adequate	Satisfactorily	Moderate Risk	4
	Limited	Poor	High Risk	1
The company's commitments to the ESMS regarding the community	High	Good	Low Risk	5
	Adequate	Satisfactorily	Moderate Risk	4
	Limited	Poor	High Risk	1
Compliance with ESMS requirements - aggregate level	**High**	**Good**	**Low Risk**	**35**
	Adequate	**Satisfactorily**	**Moderate Risk**	**28**
	Limited	**Poor**	**High Risk**	**7**

Source: Authors' own conception

When progress is noted, i.e. the annual difference is positive, they can be scored with 1 and in the opposite situation with 0 so that the final result of the adequacy to the environmental and social requirements of the company can be totalized and accounted for.

Returning to the original Conan and Holder model and considering the company as having an excellent level of compliance with international environmental and social requirements, we nevertheless consider that:

-The financial risk (FR) can be affected by the increase of the financial and personnel expenses and the part of the revenues could suffer as well due to diminished or deferred operating income. Therefore, the function of the Z-score could however have the margins changed. It is worth mentioning that the original Conan and Holder model is also an empirical one, therefore on different regions and at different time periods, for different branches or industries of a national economy the values and margins of the Z function are different from the original version.

-The commercial risk (CR) will have to continue to respect that the average period of collection of receivables from customers has to be below the average period of payment of the suppliers. However, it should be noted that different business models between customers, suppliers and the firm regarding the ESMS compliance can lead to delays in a number of days.

-Guarantee risk (GR), in case of bank loans may or may not be affected by the adaptation to environmental and social requirements depending on the elements subject to the guarantee. Thus, it is preferable that the guarantees to be the classic ones. Bank deposits, bank promissory notes, guarantees issued by the Deposit Guarantee Fund in the banking system (FGDB).

-Managerial risk (MR) can also be affected by compliance with ESMS, but it is assumed (as above) that the requirements and standards of ESMS are largely respected by the company, and the qualification and experience of the manager in the field can also be considered compliant, not affecting this risk.

-The sensitivity risk (SR), for the medium and long term investments, may or may not be affected by the ESMS implementation, but as long as the financial rate of return continues to be higher than the interest rate related to the credit in the approval, the sensitivity risk may be in good measure not affected.

Thus, the total risk may undergo slight upward adjustments, probably by changes in the bumps of the three risk classes, or the total risk may remain unchanged, with adjustments within each type of risk or risk offsets, for example a higher financial or commercial risk can be tempered by lower managerial risk or guarantee.

It should be noted that in the context of a pandemic, such as the Coronavirus, in addition to the obviously increased social risks, there is the huge possibility of a rapid bankruptcy risk materialized in the situation of not adapting the existing business to another business model and to another perception of reality. The financial, commercial, banking and guarantee risks and sensitivity can explode spectacularly, including the managerial risk in the context of not adapting to the new partnership relations with customers, suppliers and the state. Debt freeze, designing a deferral term from at least 3 to 6 months, including in relation to the state, but also between business partners and especially the provision of strong consulting services on business redesign, so that the economic and social effects at company level to be minimal are the best solutions to minimize the risk of bankruptcy at company level.

Conclusions

The paper aims to make a theoretical foray into the incorporation of social and environmental risks into the classic framework of risk assessment and management.

Also, the paper aims to identify and evaluate the risks associated with the sustainability of companies, by formulating a new methodology, starting with the Conan and Holder model. The approach in this regard is theoretical and logical; the formalized methodology is still an incipient one, later requiring the construction of purely applicable models in various regions, countries, sectors and industries.

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ANTIFRAGILERS AS INSTITUTIONAL DEVICES TOWARDS AN AUTOPOIETIC ANTIFRAGILITY

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Abstract:

Paper aims to develop, from a conceptual point of view the concept of antifragility, as property of dynamic systems. The main direction of such development is focused to introducing of a new concept in the economic debate, namely, the concept of antifragiler. An antifragiler is that structural device of a system which ensures the actual functioning of the antifragility property. To this end, paper examines, for the first time in the dedicated literature the concept of antifragiler, from a logical, methodological, and institutional point of views, trying to connect it to the already known concept of antifragility and, thus, to find its role, functions, and mechanisms. Finally, a brief examination of the institutional ways to be endowed with antifragilers is provided.

Keywords: antifragility, uncertainty, antifragiler, institutional system, risk, perturbation

JEL Classification: B41, D80, P40

Preamble

The paper approaches one of the most recent and (as it seems) productive concept in the field of systems structure and functioning: antifragility.[56] Antifragility (Taleb, 2012) is a property of a system or process that allows it not only to off-set external (and internal) perturbations, but more than that, even to gain from those perturbations. Thus, although antifragility joins the large conceptual family of system properties aimed at to avoid, predict, handle, off-set, etc. perturbations, like: homeostasis, robustness, resilience, inertia, hysteresis, and so on, it is, in fact, special from the following perspective: perturbations could even be deliberately searched, in order to improve the system by gains mentioned. On the other hand, antifragility acts by intermediation of appropriate devices, usually of structural nature, that treat the perturbations involved – identification, classification, selecting the way of handling, and the way of gathering presumed gains. I shall name such kinds of devices antifragilers.[57]

Objectives of the paper

Paper has three objectives to be achieved: a) introducing the concept of antifragiler; b) identifying the functions of an antifragiler; c) examining an institutional model endowed with antifragilers.

Methodology used

Methodology used in the paper is, principally, of logical kind. However, taking into the account the necessity of extending the concept of antifragiler to economic structures, systems, and processes, examinations of institutional nature will be used, too, when appropriate.

Research organization

The research provided in the paper is organized as follows: 1) a short description of the concept of antifragility (Dinga, 2018) as structural property of dynamic systems (including the institutional ones); 2) proposing of the concept of antifragiler as device through which the dynamic systems (de

[56] The concept of antifragility (or of antifragile system) has been introduced by Nassim Nicholas Taleb in his work, translated into Romanian, *How to Live in a World We Don't Understand*, Allen Lane (Penguin Group), 2012.

[57] The term antifragiler is built up by analogy with the term resilientor, which is associated to the property called resilience.

Bruijn, Größler, & Videira, 2020) exert their property of antifragility; 3) identifying the basic elements required to design of an antifragiler; 4) analysing the features of an institutional system from the perspective of the concept of antifragiler.

Antifragility as structural property of systems

As evoked above, antifragility is a property of a generic dynamic system (no matter its nature) which is aimed to fight the perturbations, either internal or external, exerted on that system. A perturbation is understood as an impulse, either predictable or not predictable, which causes a shifting of the system from its cruise trajectory. For moment, I am not concerned with the signification of such a shifting – it could be either beneficial or maleficial (nonetheless, such a qualification is, in fact, crucial, as we shall see next, because antifragility has precisely the role to convert the potential maleficial into actual beneficial). When a system is object of an (either actual or potential) perturbation, it can have the following „strategies" to handle it:

- avoiding of perturbation – such a strategy could be name as *by-pass*;
- withstanding of perturbation – such a strategy could be name as *robustness*;
- suffering of perturbation but recovering of its previous state – such a strategy could be name as *resilience*;[58]
- gaining from suffering (or accepting or even searching) of perturbation – such a strategy could be named *antifragility*.

Regarding the property of antifragility (Dinga E. , 2018), its predicates of sufficiency are the followings:

(a) structuralness: the property is located deeply in the structure of the entity concerned. Structuralness provide the entity with permanency, continuity, and predictability of antifragility functioning;

(b) autopoieticity: the property has its own property to self-replicate and evolve. The own property of autopoieticity of antifragility is one of the most relevant attributes of the concept in case.[59] In essence, the antifragility's autopoieticity implies the followings;

- a *phenotype* (Danchin, Binder, & stanislas, 2011)to be self-replicated in the antifragility evolution – I shall propose in this paper the antifragility's phenotype be the antifragiler;
- a *genotype* (Frommlet, Bogdan, & Ramsey, 2016) (or gene) that suffers the "mutation" – I shall propose in this paper the antifragility's genotype be the institutional structure within which the phenotype is working and replicated;
- a "*mutation*" – I shall propose in this paper the mutation be exactly the perturbation (located either inside or outside the entity concerned);
- a *criterion* to validate the integration of mutation in the replicated phenotype with that mutation incorporated – I shall propose in this paper such a criterion be the positive difference between beneficial effects and maleficial effects of suffering the perturbation in case. To be mentioned that, in fact, the validation based on the proposed criterion leads both entity and its environment to a co-evolutive process.[60] Such a co-evolutive process implies a mechanism based on the

[58] Other concepts for such behaviour are named also *inertia* or *homeostasis*.

[59] To be mentioned that the autopoieticity of antifragility is completely ignored by date in specialty literature. It will be extensively treated in the doctoral thesis of author.

[60] The co-evolution in the antifragility's autopoieticity will be not developed more here. The idea will be resumed in another scientific intervention.

compatibility of reaction norms from entity to its environment and, reciprocal, from environment to the entity.

Based on the above mentioned findings about the antifragility property of a generic system (entity, process, phenomenon, event, and so on), Figure 1 synoptically synthesises them.

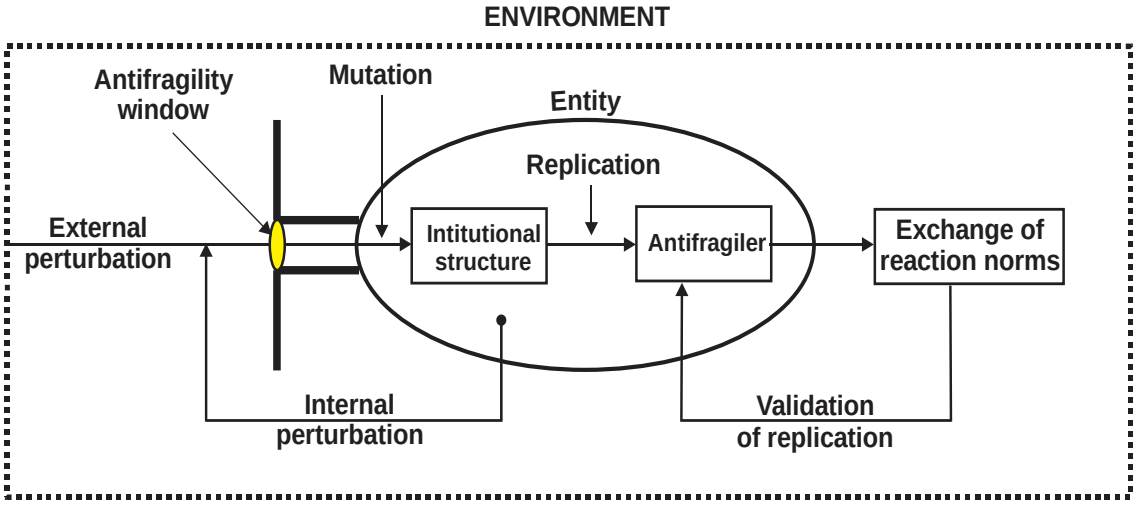

Figure 1 - Autopoietic replication of the antifragility.

Source: Author

Discussion:

- the antifragility window represents that perturbation (either internal or external) which could not be off-set by the other properties of the entity concerned (as robustness, resilience and so on) and, have exerted their impact of that entity. Of course, such perturbations could have been deliberately searched by the entity itself from specific reasons, for example to gain from them. Any case, some perturbations pass through antifragility window towards the entity;
- the perturbations in case affect the genotype of the entity, that is, its institutional structure (Bendell, 2014), thus generating a mutation in that genotype;
- the mutation inserted into the genotype will be held in the phenotype replication, that is, in the antifragiler replication;
- now, the replication of phenotype must be tested through the reaction norms exchange between the entity and its environment. Like in the biological case, the mutation can be ”accepted” by the environment or can be rejected, so the new version of the entity is invalidated.

The autopoieticity of the antifragility, as well as the concept of antifragiler are not yet discussed in the specialty literature, they being proposed by this paper for first time. Of course, the very mechanism of such an autopoieticity of antifragility needs more developments, but for the purpose of the paper – which particularly aims to introduce the concept of antifragiler – the above short discussion seems to be enough.

Antifragilers – concept, typology, role, and functions

The antifragiler, as established above, constitutes the phenotype of the property of antifragility. More exactly, the antifragility is replicated if and only if all of its antifragilers are replicated too. The

reduction of antifragility replication to the antifragilers replication could be considered as a reductionist way to handle the property of antifragility. In fact, it is not precisely so.[61] For:

- it is not the case that a macro state is explained by a micro state, as happens in the reductionism;
- antifragilers are not entities at a lower level of existence or organization of antifragility, but precisely structural components of antifragility. That is, by explaining antifragility autopoieticity by the components of such an antifragility is not, again, of reductionism procedure;
- in fact, antifragilers are not introduced as components whose aggregation generates antifragility (as reductionism does), but such an introduction is made in order to explain how antifragility could replicate itself, that is, from a functional (or, better, from a mechanism view) of antifragility.

Therefore, what is an antifragiler? I propose the following definition: an antifragiler is a *structural device of an entity (system, process, phenomenon, or event) which by its functioning and replication provide that entity with an autopoietic antifragility*. A question arises here immediately: could antifragility exist without antifragilers exist, too? My response is affirmative, for:

- the property of antifragility is functioning, of course, based on structural devices that have the potential and procedures to gain from perturbations, but such devices must not certainly be replicable as such (for example, they could act for a single iteration or even could be destroyed by that very functioning);
- therefore, autopoietic antifragility is only a species of antifragility.[62]

It results that the role of antifragiler is to ensure the antifragility perpetually, that is, by its own replication (although under the impact of mutation exerted on the structure of the antifragility itself). In other words, precisely by delivering antifragility, the antifragilers replicate themselves roughly identical, under the condition of validating by the environment of entity in case. Here it must be said that the potential of antifragility to gain from perturbation[63] applies also on antifragiler,[64] that is:

- the mutation exerted on the structure of entity shifts the antifragiler from its previous state;
- the new version of antifragiler enter the confrontation with the entity's environment and, by intermediation of reaction norms exchange between entity and its environment, is (possible) validated;
- the validation of the new version of antifragiler, which contains the mutation, constitutes the gain of antifragiler from perturbation, because by the validated replication, the antifragiler in case still holds its role in providing antifragility for the entity in case.

Generally, antifragilers can be of the following kinds:

(a) based on the way in which they take advantages from perturbations:

(a.1) antifragilers without conversion (ANC) – which take advantages from perturbation *without changing their nature*. For example, if the perturbation consists in an unexpected change of exchange rate of currency, then the advantages taken represents an amount of currency gained. Or, when an unexpected change of the market price for the product controlled by the entity in case brings an advantages of monetary nature too, like an additional revenue from selling that product;

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[61] More than that, it is not a bad thing to apply the reductionism. In fact, the more developed a discipline is , the bigger is its degree of reductionism. For example, the axiomatized disciplines have the biggest degree of reductionism.
[62] Of course, the devices acting within an non-autopoietic antifragility cannot be anymore called antifragilers, but only antifragility devices.
[63] Elsewhere, I have treated the fructifier that accomplishes such a function to capture, for the entity, benefits brought by the perturbations.
[64] Moreover, the captured gain is exerted primarily on antifragiler and only secondarily on antifragility.

(a.2) antifragilers with conversion (AWC) – which take advantages from perturbation *by changing their nature*. For example, an increasing of the tax on import will be convert into developing own technologies to produce the previously imported goods and services that now have become more expensive;

(b) based on the mechanism through which they take advantages from perturbations:

(b.1) antifragilers with direct taking over of advantages from perturbations (ADTI) – which take advantages from perturbation by themselves, without any intermediation of other antifragilers of the entity in case;

(b.2) antifragilers with indirect taking over of advantages from perturbations (AITI) – which take advantages from perturbations by using a chain of impact that involves two or many antifragilers working in that entity, so, eventually, the gain from perturbations being integrated by the entity in case.

Table 1 shows the typology of antifragilers (extracting four kinds of antifragilers by the concomitantly applying of the two criteria of classification), while Figure 2 suggests their general functioning.

Table 1

The typology of antifragilers

		Mechanism	
		ADTI	AITI
Way	ANC	A(DTI-NC)	A(ITI-NC)
	AWC	A(DTI-WC)	A(ITI-WC)

Source: Author

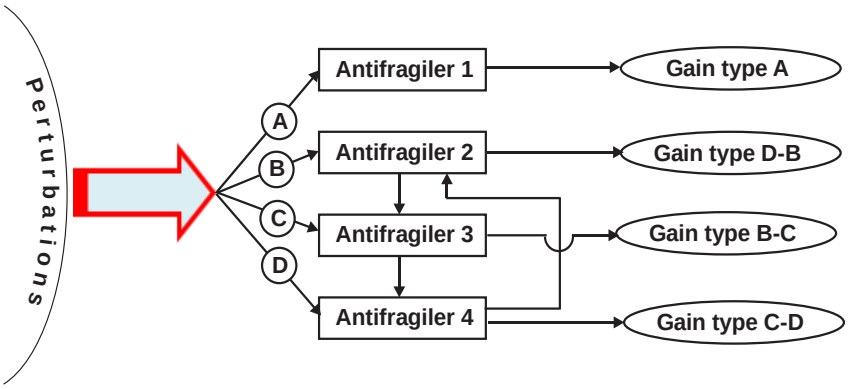

Figure 2 - Mechanism of antifragilers working

Source: Author

How to design an antifragiler?

To design an antifragiler means to design a process that must simultaneously verify two conditions: a) have the potential to fructify the perturbations in favour of entity concerned, no matter their nature, intensity, duration and other peculiarities; b) have the potential not only to be not destroyed by perturbations, but also to gain for itself from them, including the maintaining (or

even improving if possible) its capacity to replicate itself in connection with the entity's environment, by the above mentioned of the co-evolution entity – environment.

(a) This potential/capacity is, in fact, the essence of the concept of antifragility (Dinga E. , 2020) itself. It can be ensured, via entity's (deep) structure, based on the following conditionalities:

- a list of possible (although unpredictable at all) perturbations, with the corresponding impacts which, in turn, are assigned to intensity, duration and other relevant features that perturbations could carry out;
- a list of feasible reactions (responses) which the entity concerned should perform for any case of perturbations;
- a connection list (or algorithm) which assign a unique entity's reaction to each perturbation with given characteristics;
- a list of appropriate procedures to be pursued for each case that could occur. Figure 3 synoptically show this conditionality.

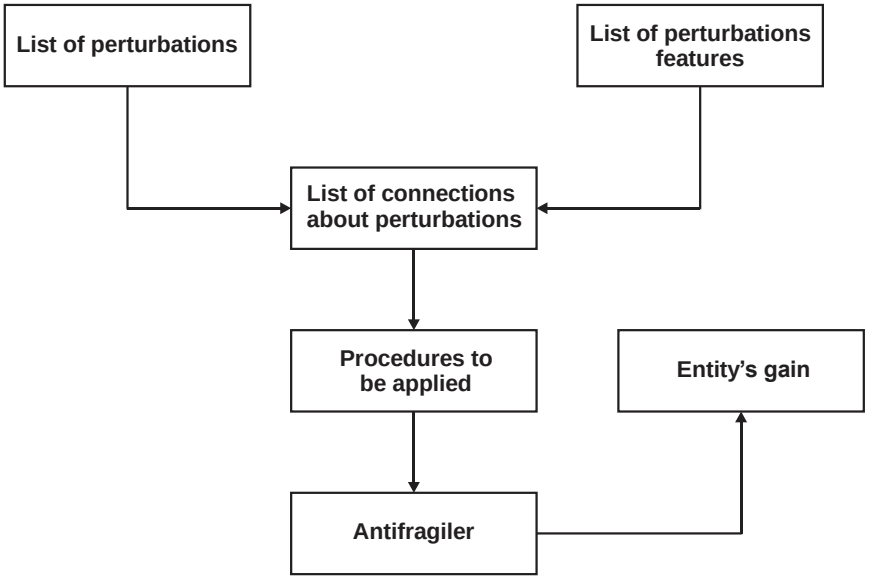

Figure 3 - First conditionality of antifragiler

Source: Author

(b) Instead, this conditionality is exactly my proposal in the paper, regarding the autopoietic antifragility by intermediation of the antifragiler. Designing such conditionality implies the followings:

- antifragiler must be able to filter the perturbations so that not to be shifted from its cruise trajectory (or standard functioning);
- as result, only the perturbations which antifragiler can handle will enter the entity;
- the entered perturbations are, then, processed so that obtain, from the antifragiler itself, some gains, advantages or fine tuning in order to improve its working in next iterations;
- thus, alongside the general fructifier of the antifragility property, here occurs a sui generis fructifier at the antifragiler level aimed at to improve this device.

Thus, to design an antifragiler means to design and institutionally implement the two mentioned conditionalities.

A model of institutional systems endowed with antifragilers

The autopoieticity model of antifragility property of an entity can be particularized for an institutional system (either public or private). This means that with the antifragilers designing must be designed to the institutional framework which will ”host” these antifragilers and, in addition, put them into a specific network which allow then to work together and, consequently, to extract the synergic effect from this cooperation. Based on the above discussion, I think to model an institutional system (Pineda O., Ghershenson, & Kim, 2019) which aspires to be endowed with autopoietic antifragility mechanism implies at least the followings:

(a) designing of the antifragilers, as described above;

(b) identifying of the external (that is, ”hosted” by environment) niche or niches for each antifragiler, which ensure on the filtering of the destroyer perturbations – these perturbations will be treated outside the antifragility, for example, by robustness, inertia, resilience, etc. devices);

(c) designing of the network of connections among antifragilers so the end of the antifragility property be accomplished;

(d) designing of the institutional procedure so that the antifragilers be replicated according their co-evolution with the entity’s environment.

Results and conclusions

Paper introduces a new concept linked to antifragility, namely the concept of autopoietic antifragility. Such an approach is not yet examined in the specialty literature. This concept necessarily generate the introduction of the successive concepts of: antifragiler – as phenotype of the autopoietic antifragility –, institutional structure – as genotype of autopoietic antifragility, co-evolution (Thompson, 2010) between the entity endowed with autopoietic antifragility and its environment (with its sub-concepts of niche, reaction norms, and validating criterion of the phenotype replication). Because their novelty, the antifragilers are more analytical discussed, including a bi-criterion typology of them. Other results address the issue of designing and implementing both the antifragilers and the institutional framework which could provide the sufficient conditions for the autopoietic antifragility properly function.

Further research suggestions

The topic addressed by this paper (the autopoieticity of antifragility) constitutes only a first step in the specialty literature in the matter of developing the concept of antifragility, which, in its nakedness, was proposed by Taleb. I have elsewhere developed other three or four such directions of research linked to the pure concept of antifragility, but strictly in relation with the present topic, I think at least three future directions of research could be approached by the interested researchers:

- the issue of co-evolution based on the iterative reaction norms process between the antifragile entity and its environment, in order to deeper clarify the question of validation criterion of antifragiler self-replication;
- identifying of the thresholds (if exists) between which the antifragility acquires and sustainably maintains the property of autopoieticity;
- further developing the concept of antifragiler especially regarding the public institutional systems and, correlatively, examining the public institutional network which provide the best chances for automatic functioning of the antifragility.

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META-KNOWLEDGE AS WAY TO HANDLE THE INFORMATION EXPLOSION – AN INFORMATION SCIENCE APPROACH

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Abstract:

In the Information Science field of interest, the optimization of providing the most appropriate documentation to the reader has become an almost insurmountable problem. If in the case in which the involved reader has completed a questionnaire aimed at (generally) indicate the sphere of knowledge interest, it is still possible to provide him with too much information that cannot be useful assimilated. Paper proposes a new approach in the matter, namely to provide the reader not with knowledge, but with meta-knowledge. To this end, the concept of meta-knowledge, as well as the way in which particular requests of information could be connected with that concept and, consequently, the way in which the appropriate documentation should be provided are examined and detailed discussed. Finally, some institutional proposals are done in order to make feasible such a meta-knowledge providing to the Libraries users.

Keywords: *Information Science, knowledge, information, meta-knowledge, optimization.*

JEL classification: *A20, I20, Z00.*

Today's human society has reached the stage where almost all information is available almost instantly to almost everyone. The information is no longer a rarity but, on the contrary, threatens, through the increasing volume, to become overwhelming. Thus, sociologists' predictions for the next five years predict a tenfold increase in the amount of information, an increase due to the technological boom of the last four decades and, in particular, the Internet.

Every day, users of the infodocumentary structures, such as libraries, manage and retrieve information from the huge amount available in them, a process that, very often, proves to be difficult and time-consuming. Most of the time, they feel disoriented and do not know where they are, where they will go and what they will do.

All this huge flow of information produces side effects such as missing really important information. The feeling of being overwhelmed by an enormous amount of information is by no means a new one, but it is, in fact, a fundamental problem of the human condition. The company has faced this in the past, after inventions such as newspaper, the radio and television, which produced, in those times, increases in the flow of information. Their manipulation does not create difficulties for current high technology but creates problems for the human subject in terms of their processing to be transformed into knowledge. The human being has limited power to process information, studies estimating that, for a specialized field, reading all publications on the web exceeds the biological time available to a human being. (Iancu, Şt., 2017).

Information document structures, such as libraries, for example, are at the forefront of this struggle, having to adapt to the new requirements the whole set of services provided to users. A first effect of the information avalanche materializes in the requirement of users to be provided with information liable to quickly turn into knowledge in their fields of interest (general or scientific). Recent research has focused on building better tools to help users manage information retrieval.

Knowledge is that information which, once received as such, finds in the pre-existing cognitive "deposit" of the receiving subject an informational (and knowledge) base that allows its structural integration.

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To this end, it is necessary to equip the infodocumentary structures with appropriate software to filter the information that can be transformed into knowledge, starting from the robot portrait of the user's initial cognitive background. The purpose of the program is to deliver to him, as far as possible, only that information which is useful to him.

The design of the robot portrait will start once the library card is obtained by filling in a grid form with predefined answers, a form that should include the following elements:

1. Professional specialization

2. Expertise

3. Interest in reading

The information obtained in this way will be introduced in the program which has the role of comparing, through specialized algorithms, the robot portrait of the cognitive background corresponding to that user, with the information after which the classification and indexing of publications in the library catalogue. If the user's areas of interest match the theme of some papers, they are delivered.

Even in this way, it is still possible to provide the reader with too much information that cannot be usefully assimilated. Hence, there is the need for the delivery of meta-knowledge and not just knowledge.

The concept of meta-cognition, as a process by which knowledge is obtained, is a relatively recent one, which emphasizes the role of the subject in the conscious realization of the cognitive process by self-knowledge of one's cognition, being used to refer to a diversity of epistemological processes. Developed by John Flavell (1976) and then interpreted and applied to the theory and practice of education, he defined it as composed of "knowledge that takes as its object or regulates any aspect of any cognitive effort."

Meta-cognition has been described as "the ability of individuals to regulate their cognitive activity to promote more effective understanding." It is a deliberate, planned, goal-oriented mental process that uses higher-level thinking skills applied to thoughts and experiences (Hacker et al. 1998). The thought process is related to how the cognitive subject relates to reality through his mental representations. Moore (1982) defines it as "the knowledge of the individual about various aspects of his thinking" and has also been described as "the ability of individuals to regulate their cognitive activity to promote more effective understanding."

Meta-knowledge is a reflection on one's cognitive activity that often leads to anticipations regarding the development of these reflections. Meta-cognition is the process by which the cognitive subject obtains them by monitoring their cognitive processes, constituting, in fact, feedback that he actively uses in achieving his cognitive goals.

In 1981, Flavell proposed the cognitive monitoring model illustrated in the figure below:

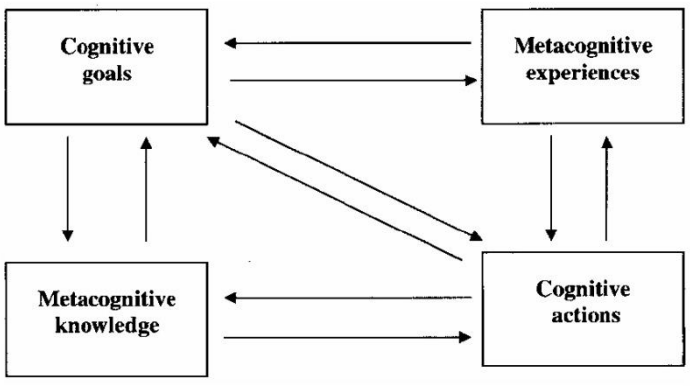

Figure1. Flavell's model of cognitive monitoring (source: Flavell, 1981)

Meta-knowledge appears during the information search process, its correct application leading most easily to good results. At a more advanced stage, knowledge is gained about the quality of information and about how such information is obtained.

In the case of info-documentary structures, in the process of finding information, it was found that it is unlikely that all searches will provide solutions to a particular problem. Many interactions are likely to produce not solutions, but knowledge of the location of potential solutions, either in the form of specific information or by defining broader areas of information. What is transferred from the source to the receiver - the cognitive subject - in this process is the knowledge about knowledge. Such interactions can take two forms. First, they can serve to guide the cognitive subject to relevant information, and second, they can guide him away from irrelevant information.

In the process of designing a heuristic information retrieval strategy to develop meta-cognition, approaches to:

- defining concepts, terms, notions;
- description of some aspects;
- interpretation of partial results;
- finding equivalents;
- explanation of concepts, terms, notions, phenomena;
- comparing the results to establish similarities and differences;
- formulation of ideas, judgments, personal opinions, direct and indirect evaluations;
- formulating arguments for or against (Rusu, Dj., 2018).

We can exemplify, in the case of info-documentary structures, as follows:

1. Instead of providing knowledge in a given field, knowledge is provided in a field with an immediately higher degree of generality.

   We can consider the case of a cognitive subject who requests information in the economic field. By providing him with information in the social field, we will thus provide him with knowledge about the genus, concerning the knowledge about the species. Delivering to the cognitive subject meta-knowledge - that is, knowledge about the genus - it is given not only knowledge about the target species, but also knowledge about other species that are part of that genus (in this case, for example, about sociology or anthropology);

2. Instead of providing specific knowledge about a topic (eg about the economic system), knowledge of systems, in general, is provided (in this case, knowledge of systems theory is provided). In other words, here, in relation with the knowledge of a particular case, knowledge is provided about the general case. Thus, giving meta-knowledge - that is, knowledge about the general case - gives not only knowledge about the subject, but also knowledge about any particular case that would become of subsequent interest;

3. Instead of providing knowledge about a specific case[66], for example, about the institutional response to the COVID-19 pandemic in Romania, knowledge is provided about the response to non-economic external shocks. It is also a type of meta-knowledge because, by making available to the subject meta-knowledge – i.e. knowledge about the abstract case - it gives not only knowledge about the case (dated temporally and spatially), but also knowledge about the case that has no dating, i.e. about the abstract case.

Meta-cognition plays an important role in the acquisition of knowledge, majorly influencing this process by forcing the cognitive subject to select, evaluate, review and even abandon cognitive tasks, goals and strategies. They are very helpful in interpreting the meaning and implications of various strategies for finding information that can be transformed into knowledge.

[66] Nota bene: We must not confuse the particular case with the concrete case, the particular case can be an abstract but particular case, just as the particular case can be a concrete but general case.

Conclusions

Humanity is facing a major, accelerated transition from the industrial age to the age of knowledge, characterized by a society in which the creation, dissemination and use of information and knowledge have become the most important factor of production. In such a society, the intellectual capital materialized in knowledge is the most powerful producer of wealth, surpassing in importance the land, labor and financial capital.

The transition from the agricultural to the industrial era lasted about 150 years, a process in which agriculture did not disappear, but had the effect of the emergence of an industrial approach to agriculture, so that 5% of the population is employed in this branch of the economy, instead of 65%. Similarly, in the future, we will still have industry, but we will understand and manage it from a new perspective: the knowledge perspective. Mankind is at the beginning of a transition of probably a few decades to a knowledge-based economy, in which we will discover that the goods we need every day can be produced by less than 10% of our population. We also find that we need to become more responsible for the planet's natural resources so that we do not pass on to future generations the problems we create.

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OBJECTIVES OF THE MATERIAL RESOURCES EFFICIENCY POLICY AT COUNTRIES LEVEL

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Abstract:

The objectives of material resource efficiency policies are a statement of intent and a recommendation to the objectives to be pursued and fulfilled in terms of their optimal use and management in a sustainable way. Over the last decade, we have been confronted with the general picture that the economic benefits of improving efficiency and circularity of the use of the resources are increasingly recognized and acted upon.

The starting point of this work is to highlight the conceptual complexity of the problems, the need to improve the policy initiatives. Due to the existence of a vague field of application, in which it seems difficult to make an in-depth assessment of progress, the countries are supported in developing resource efficiency strategies. It is imperative to be aware of the importance of the efficiency and the opportunities that it propagates and supports.

Keywords*: material resources, efficiency, objectives, initiatives.*

JEL classification*: Q56.*

Introduction

Over the last decade, the sustainable use of resources has received increasing attention in European Union policy, presenting itself as a smart way to address environmental, climate, economic efficiency and safety goals.

Since 2011, EU policies have evolved, so that through the Circular Economy Package published by the European Commission in 2015, resource efficiency efforts have gained additional support. The particular focus on closing material loops and reducing waste reflects the fact that low resource efficiency is due to the fact that resource use is still based on a linear economic model that cannot be sufficient or efficient to achieve the goals of Europe's 2050 vision.

Since 2015, additional policies have emerged on resource efficiency, on the circular economy and on the closure of material loops.

The European Environment Information and Observation Network (EIONET - EU Europe) and the European Center for Waste and Resources in the Green Economy (ETS / WMGE) have established a review of national approaches to material resource efficiency, as well as the identification of both similarities and differences between policies, strategies, indicators and targets, policy makers and institutional structure.

The main priority is policies and initiatives on material resources. Unlike the 2011 papers, the current analysis focuses on material resources, rather than largely defined natural resources.

The main objective considered is to support the experience gained in developing material resource efficiency policies.

The scope includes flows of materials entering / leaving the economy (biomass, non-metallic minerals, metal ores and fossil energy materials), as well as secondary raw materials (waste derivatives). Also, the scope is the transformations that materials undergo throughout their life cycle and the initiatives to close material loops in the context of a circular economy.

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National strategies and action plans for the efficient use of material resources and policy objectives

As a starting point, we wonder if:

A. Do countries have a resource efficiency strategy or an action plan?

B. Are there other national policies and strategies addressing resource efficiency in other areas?

C. What general policy objectives for the efficiency of material resources are set out in these policies?

A. National strategies or action plans dedicated to the efficient use of resources

Three countries - Austria, Finland and Germany reported that they have a national strategy for the efficient use of material resources or an effective action plan targeting material resources.

The Resource Efficiency Action Plan (REAP) was adopted in 2012 and includes as a target - decoupling resource consumption from economic growth, as well as increasing resource efficiency by at least 50% by the end of this year.

The Finnish National Material Efficiency Programme — Sustainable Growth through Material Efficiency (2014) aims to achieve economic growth, both through the rational use of natural resources and the decommitment of sustainable materials from harmful effects on the environment.

In 2012, The German Resource Efficiency Programme (ProgRess) (updated in 2018) also ensures the sustainable extraction and use of natural resources, as well as a reduction in environmental pollution.

There are two more effective strategies that take into account material resources adopted at regional (subnational) level: the Sustainable Materials Management Program (Zero Waste - Safeguarding Scotland's Resources).

Both support recycling and reuse - in the case of Flanders (Belgium), the focus is on a set of measures to achieve a circular economy and in the case of Scotland (UK), by including resources, energy and water.

These five dedicated strategies cover different mixtures of materials and resources, but all aim to reduce the impact of resource use on the environment and their efficient use, and propose a considerable number of measures to achieve this goal.

The Austrian approach to REAP and the implementation of the RESET 2020 initiative are noteworthy due to the purpose of their activities, as well as the fact that Austria is currently one of the few European countries that has adopted quantitative targets to improve the efficient use of material resources.

Finland's national resource efficiency program is flanked by a number of projects on various topics such as the bioeconomy, sustainable mining and clean technologies. Programs aimed at consumption habits, greening of public procurement and the efficiency of building materials are underway.

Germany's progress is focused on non-energy abiotic resources, as well as the use of biotic resources. The updated version of the ProgRess program, which was published in 2018, has expanded its scope to include abiotic (fuel) and biotic energy resources (biofuel).

Other natural resources - such as water, air, soil, soil, biodiversity and ecosystems - are covered by other strategies, processes or legislation, and are not addressed in detail by ProgRess.

B. National policies and strategies to address material resources effectively in other areas

A wide range of national policies or strategies have been reported to address material resource efficiency through other topics.

The most common examples of policies and strategies reported by countries that include resource efficiency benchmarks will be reflected in the following table (Table 1).

Table 1

Policies and strategies aimed at the efficient use of material resources among the various topics (*)

No.	Policies and strategies aimed at resource efficiency	Mentions
1.	Strategies dedicated to the efficient use of resources	5
2.	Waste Management and Recycling	28
3.	Energy Strategy, Energetic efficiency	19
4.	Innovation, Industrial Development	**19**
5.	Sustainable development, Environmental Strategy	**18**
6.	Waste prevention	18
7.	Green Economy, Green jobs, Ecological growth	**13**
8.	Forestry, wood	12
9.	Climatic changes, Low carbon content	11
10.	Renewable Energy Action Plan	10
11.	Agriculture, Rural development	9
12.	Green Public Procurement	**8**
13.	Water	7

Source: http://ec.europa.eu/eurostat/statistics-explained

Note: (*) Based on the available information, a distinction has been made between energy and energy efficiency strategies, although both address energy. Waste was studied in the same way (waste management and recycling versus waste prevention).

The 18 countries that reported national strategies or action plans for sustainable development or environmental protection strategies include elements of efficient use of material resources as a general objective or policy measure.

Other policy groups that include material resource efficiency issues are green economy policies (13), such as: the Austrian Green Jobs Masterplan and the Swiss Green Economy Action Plan and policies for innovation and development. (19), including Smart Specialization in the Czech Republic, Bio-Economy in Germany, National Strategy for Environmental Technology Innovation in Hungary, Ecodesign for Energy Related Products in Portugal.

Specific raw material policies were reported by: Austria, Flanders (Belgium), the Czech Republic, Finland, Germany, the Netherlands and Slovakia - mainly focusing on mining and mining. Five other countries - Finland, Hungary, Kosovo, Norway and Sweden - reported on mineral resource strategies.

National action plans or strategies for building materials have been reported by two countries - Estonia and Liechtenstein.

Flanders (Belgium) presented a regional policy plan that aimed to extend the approach from construction and demolition waste collection to a perspective that aims to follow the life cycle of buildings and construction materials: production, design, construction, use, maintenance, end of life cycle and waste management and collection.

A total of 62 thematic strategies for specific resources or sectors were reported.

Of these, forestry and timber (12), climate change (11), followed by agriculture and rural development (9), water (7), biodiversity (5), buildings (5), food (5), population (3), tourism (2), marine environment (2), land and soil (1). Most of them are in line with the resources and sectors mentioned in the Roadmap to a Resource Efficient Europe, which have been used as a starting point for the various national strategies mentioned.

There have been only a few national policies on the sustainable use of natural resources that follow the approach of the Strategy on the Sustainable Use of Natural Resources, according to the European Commission of 2005. In Serbia, the National Strategy for the Use of Resources and Goods -renewable geological, hydrological and biological and natural goods. Serbia's objectives include:

- increasing the efficiency of resource use;

- reducing the impact on the environment in relation to economic production.

Green public procurement (GPP) was mentioned by eight countries. Although GPP does not focus on a particular topic, some countries consider it an important tool for improving the efficiency of material resources, as reflected, for example, in Denmark's National Strategy for Smart Public Procurement and Green Tenders in Ireland.

As part of their material resource efficiency strategies, four countries have reported tools to support the business of small and medium-sized enterprises (SMEs) that aim to integrate the circular economy and effectively address resources in production processes, for example: Business Fund Greens in Denmark, Reffnet in Switzerland and the Reference Center for the Circular Economy in Belgium.

Some countries, including Germany, Italy and Spain, have reportedly implemented regional and local resource efficiency strategies as a complement to national or economic strategies for resource efficiency, as in the case of Belgium and the former member country, the United Kingdom, as a regional response to national strategies.

C. General policy objectives for resource efficiency

The general policy objectives are a statement of intent and an indication of the objectives to be achieved in terms of resource use and efficiency.

With regard to waste and waste management policies, which are the most significant category, the targets have increased for recycling and recovery rates (24), waste prevention (17), promotion of reuse and secondary resources (17), waste efficient (16), efficient construction and buildings (11), reducing the environmental impact of waste (9), enforcing the waste hierarchy (8) and reducing food losses and food waste (8).

The most frequently reported targets for the use of materials: sustainable use of natural resources (14), increased resource efficiency (13), reducing the environmental impact associated with resource use (10), reducing the use of mineral resources (7) and decoupling growth its environmental pressures or waste generation (6).

The specific target of reducing current levels of use was mentioned by only six respondents - Austria, Flanders (Belgium), Hungary, Iceland, Ireland and Poland.

The main objectives of energy policies are - to increase the share of renewable energy (14) and to improve the energy efficiency of the economy or in certain sectors (12).

With regard to the conservation of natural resources, frequently reported policy objectives have been to protect biodiversity (14), sustainable forest management (12), reduce water loss and improve water efficiency (10) and more sustainable land and soil management (7).

In terms of economic objectives, the most common policy objectives were: innovation for resource-efficient production and clean technology (13), sustainable or green growth (12), security of energy and energy supply with raw materials (10), a market for the introduction of innovative solutions and technologies for the efficiency of green resources, services and design (9) and increasing or maintaining competitiveness (8).

In the table we will present examples of the policy objectives that are most frequently reported. (Table 2)

Table 2

The most frequently reported policy objectives for the efficient use of material resources, grouped by theme

Objectives	Ways
Waste and recycling (144)	• Increasing recycling and recovery rates (24) • Waste prevention (17) • Promotion of reusable and secondary resources (17) • More efficient waste management (16) • Efficient constructions and alternative building materials (11) • Reducing the impact of waste on the environment (9) • Application of the waste hierarchy (8) • Reduction of food losses and waste (8)
Objectives regarding the use of material resources (64)	• Sustainable use of natural resources (14) • Increasing resource efficiency (13) • Reducing the impact on the environment associated with the use of materials (10) • Reducing the use of mineral resources (7)
Efficient energy management and growth the share of renewable energies (54)	• Increasing the share of energy from renewable sources (14) • Improving energy efficiency in certain sectors (12) • Reduction of greenhouse gas emissions (8)
Economic considerations - competitiveness and security of supply (54)	• Sustainable / green growth (13) • Innovation / efficient production in terms of resource use / clean technology (12) • Ensuring the supply of energy and raw materials (10) • Introducing innovative technologies on the market, technologies for efficient use of resources, services / green design (9) • Increasing competitiveness (8)
Conservation of natural resources (47)	• Protecting biodiversity (14) • More sustainable forest management (12) • Reducing water losses / increasing water efficiency (10) • More sustainable land and soil use (7)
Social interests - education and consumption patterns (20)	• Improving education / knowledge (7) • Reducing unsustainable consumption patterns (7)

Source: http://ec.europa.eu/eurostat/statistics

Note: Only those policy objectives mentioned by at least seven countries are listed in this table. However, they represent almost 80% of the total reported and, as such, are considered to be among the most common priorities.

Overall, the responses show that some countries have a wide range of needs and interests that require continued economic growth, job creation and improved competitiveness, while increasing environmental pressures due to resource-intensive use and continued consumption growth of energy.

It should be borne in mind that, due to overlaps in scope, many objectives cannot be easily separated. Therefore, as a complement to the policy objectives mentioned in the table above (Table 2), we will introduce a new table that will present the relative share of all general policy objectives reported (totals more than 380) (see Table 3).

Table 3

The relative share of the overall policy objectives reported, grouped by main themes (*)

Nr. crt.	Theme	Quota %
1.	Waste and recycling	38%
2.	Economic considerations - competitiveness and security of supply	14%
3.	Efficient energy management and increasing the share of renewable energies	14%
4.	Nature conservation (biodiversity, forests, water, land, etc.)	12%
5.	Objectives regarding the use of material resources	17%
6.	Social interests - education and consumption patterns	5%

Source: http://ec.europa.eu/eurostat/statistics

Note: (*) Details are shown in Table 2

Such groups show that more than a third (38%) of general policy objectives relate to waste management, including recycling, recovery and a circular economy.

Another 17% of the reported targets can be considered as specific to the use of material resources, while 14% refer to economic considerations, and another 14% refer to a better management of energy and increase the share of renewable energies in total energy consumption. Of the reported policy objectives, 12% focused on the conservation of natural resources, such as biodiversity, forests, water, land and marine resources, which are largely outside the scope of material resources.

Social interests were highlighted by the percentage of 5%.

The Republic of Macedonia has been an interesting case in increasing the efficiency of resource use through mechanisms that ensure an integrated approach to economic, social and environmental issues. In Macedonia, the general policy objectives are aimed at the management and protection of natural resources in a broad sense, including biodiversity, air, water, soil, forests and land cover.

Examples of specific objectives include reducing water pollution, air pollution and reducing waste generation, as well as reusing and increasing the amount of recycled waste. Other objectives relate to the protection of natural resources used in agricultural production, including soil and water, increasing forest cover and rehabilitating abandoned agricultural land across the country.

Conclusions

The number of programs and policy initiatives that incorporate material resource efficiency as a key component has increased. This can be attributed, at least in part, to the adoption of the EU Flagship initiative and the Roadmap for a Resource Efficient Europe.

For the development of future policies on the efficiency of material resources and the circular economy we note that:

• Key concepts, including resource efficiency and the scope of material resources, are not clearly defined, either in national or EU policies.

Highlighting such a vague scope creates a barrier to obtaining a correct assessment of achievements and progress in the efficient use of resources;

• Several countries recommend clarifying definitions, the extent of material resources and resource efficiency in order to develop more coherent responses.

It is important to note that the co-economic and environmental benefits of increasing resource efficiency and material closure loops are explicitly recognized in national approaches. The resource use agenda highlights that concerns are currently evolving towards an integrated, sustainable and economic development model.

Countries are invited and encouraged to develop resource efficiency strategies. With such a vague scope, it is difficult to make an in-depth assessment of progress towards resource efficiency targets.

One option, based on the examples from Switzerland and Denmark, could be to focus on resource efficiency in specific economic sectors or industries, where measurements and indicators can provide guidance and a significant impulse for policy development.

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ON A TRADE-OFF AUTONOMY - SYNERGY IN THE ECONOMIC INTEGRATION IN EU

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Abstract:

The European construction implies a certain degree of homogenization, both institutional and economic (see, for example, the process of economic nominal and real convergence). But, as it is well-known from theory of systems, the synergy effects come particularly inside the heterogeneous systems. The paper examines such issue, from three perspectives: the abstract supra-systems which integrate distinct systems; the concrete European Union integrated system; the desirable European Union which should maximize the synergic effect of integration. The main conclusion of the study requires the national (at least economic) systems should exhibit some a degree of autonomy (both institutional and economic) in order to reach the greatest beneficial of the integration process for all member states.

Keywords: *European Union, economic integration, synergy, autonomy, optimization.*

JEL Classification: *E02, F02, K00.*

Preamble

The problem of an economic integrated system, like European Union (Hooghe et al., 2001) (which the paper will be focused on) can be reduced, from an abstract point of view, to the problem of any integration of systems, no matter their nature or sizes. In fact, the mentioned problem can be described in some steps as followings:

- be given n systems, no matter their nature and size;
- the n systems can be integrated in two distinct ways: a) by including them into a unique system that exists separated from the n systems; b) by putting together the n systems, by a some procedure, so that, precisely by this putting together a new system is born, namely a system that includes the given n systems;
- for moment, is not of interest the very causality (or reasons) for which the given n systems come to be integrated in such a supra-system;
- also, it is not of actual interest here whether such an integration into a supra system has a formal procedure (or decision) or, by the contrary, it is a pure emergent process.

To be observed that, in both cases, a new system becomes of interest and, in both cases too, the initially given n systems become component elements of the newly born integrator system. Regardless of that the given n systems were or were not in some relationships (of course, such relationships cannot be than of horizontal orientation[68]), in the new state of entering a supra-system, necessarily occur hierarchical relationships between the integrator supra-system and the integrated sub-systems. From system theory perspective (Luhmann, 2012), we have the process synoptically shown in Figure 1 (Si means initially i; LS means leading system, which is generated by the very process of integration).

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[68] The horizontal orientation of the relationships between two or more systems means that there are no hierarchy between (or among) them.

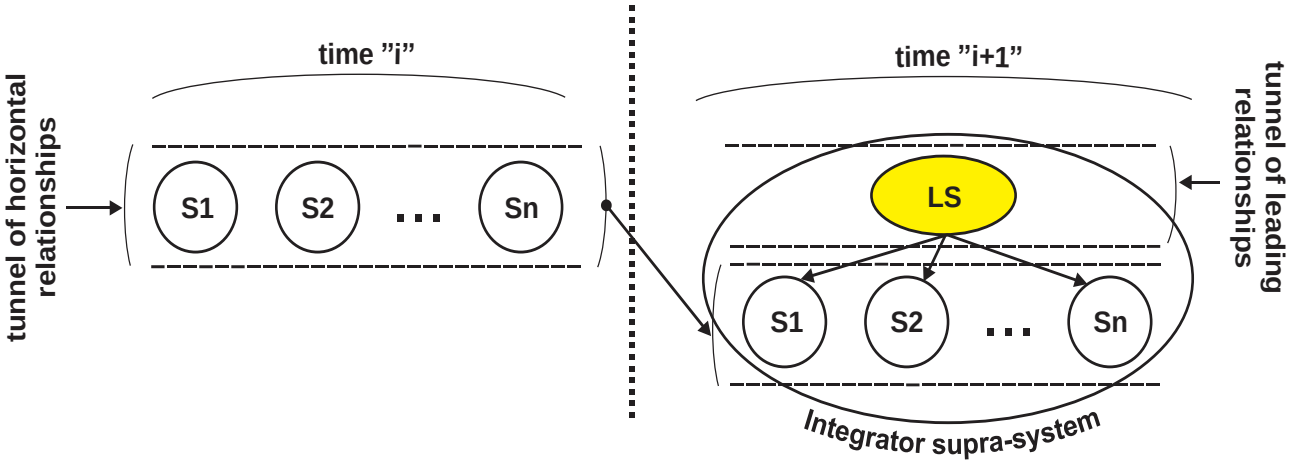

Figure 1 - The abstract process of integration system into a supra-system

Source: Author

Paper's Objectives

The paper has three main objectives: a) to provide a logical examination of three concepts involved in the research, namely heterogeneity (vs, homogeneity), synergy (Mele et al., 2010), and autonomy of an integrator supra-system which embeds a number of sub-systems; b) to propose a mechanism through which the autonomy is causally generated by heterogeneity; c) to qualitatively apply the results obtained in the matter of pair heterogeneity – autonomy to the particular case of European Union construction (Calleo, 2003), including the predictable impact of COVID-19 pandemic.

Methodology

The methodology used to conduct the research is focused on the logical methods and instruments (for example, by using the sufficient predicates when needed concepts are defined or examined in their functioning). Although such a methodology is preponderantly general and abstract, it has, in the same time, the potential to be applicable to any particular case, precisely on the basis of its abstract character.

Research Organization

The research presented in the paper is organized as follows: 1) a discussion on the issue which put into relation the process of integration of sub-systems in supra-systems (no matter the way by which such integration occurs); b) a proposal for the mechanism to pass from heterogeneity/synergy to autonomy of the sub-systems inside the supra-system; c) a discussion regarding the reciprocal opportunity costs between autonomy and synergy; d) a short addressing of European Union case from the point of view exposed in the paper, namely the needed relationship between heterogeneity/synergy and autonomy of the member states.

Binding Homogenization by Integration

By integration is mandatorily generated a leading sub-system within the new system born, that is, within the supra-system arisen through integration. Thus, a some degree of homogenization of relationships between driven systems (O'Hara & Biesecker, 2003) must (again, in a binding way) occur, since a new logic or new relationships among the driven sub-systems arises, namely a logic which must put together all sub-systems towards getting a (new) common goal of the integrated system (the supra-system). Of course, such a homogenization is more or less possible to intellectually be established or designed. However, by the very functioning of the integrated system, some degree of it will be generated (if we are speaking about social/economic systems, such a homogenization will be institutionally implemented, in the most part by formal imperative

norms). The question that is brought now is: (a) is there an optimum level of the ration between the degree of homogenization and the degree of heterogeneization of the driven sub-systems? And, yes, (b) based on what criterion could be established such a ratio? Below I will present my opinion in that question.

(a) Principled, yes. From the following reasons:

- per se, integration implies to put together, structurally and functionally, a number of systems;
- in order that those systems (*Voicu, 2008*) be integrated, that is, to form a supra-system, it must exist at least a common features of all;[69]
- in the same time, at least one feature must remain distinct regarding each sub-systems, that is, at the supra-system level; this is required by the fact that each sub-system must be observed and registered as distinct from any other sub-system;
- thus, the common feature (or features, after the case) of all sub-systems will be exacerbated, that is, will be made increasingly as common,[70] while the distinct feature (or features, after the case) will become increasingly different among sub-systems;[71]
- the two processes are simultaneous performed and are inversely proportional inter-connected: when one increases, the other decreases and vice-versa;
- a very important peculiarity of the homogenizing/heterogeneizing process is the following: the two phenomena are constrained by the sum of 1 regarding their shares: thus, if we note with ho the weight (expressed as coefficient or percents) of the homogenization degree of the supra-system and with he the weight (expressed as coefficient or percents) of the heterogeneization degree of it, then, mandatorily must:

$$ho + he = 1 \text{ (or 100)}$$

- the problem if the relative variation of the two weights are linear or not linear is, also, of significance, thus I will presuppose a non-linear relationship which is modelled by an indifference curve which is downward and convex to origin of the Cartesian system of coordinates in the bi-dimensional space (see Figure 2).

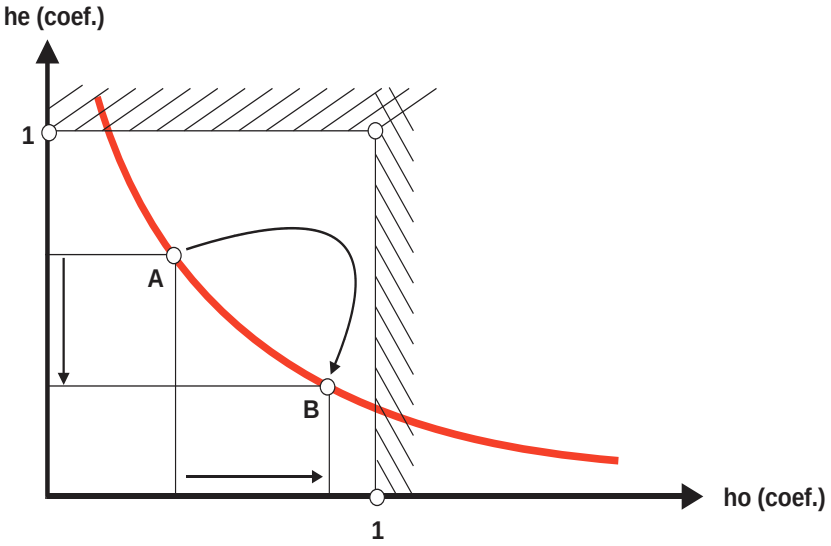

Figure 2 - Indifference curve between ho and he degree variation

Source: Author

[69] As the set theory requires.

[70] This is the very process of convergence in the process of integration, that is, the process of homogenization, in the terminology used here.

[71] This is the very process of divergence in the process of integration, that is, the process of heterogeneization, in the terminology used here.

- based on the indifference curve, it can now be approach the issue of an optimum between ho and he; firstly, it is observed that, since the indifference curve is downward and convex to origin, it the supra-system is preponderantly heterogeneous, that is, the ratio between ho and he is very small, then it is necessary that he to decrease less than ho increases, so to still remain on the indifference curve; symmetrically, if the ratio between ho and he is very high, then it is necessary that ho to decrease more than he increases, so to still remain on the indifference curve. This means we could think that an optimum level (in fact, rather an equilibrium point) between the two we weights should be that point in which the marginal variations of he and ho are equal. Of course, the precise place of such a point is depending on the curvature (or convexity) of the indifference curve in case;

(b) The criterion I propose for the ratio between homogeneity and heterogeneity degrees inside an integrated system (Lin et al., 2017) under a supra-system: the *level of synergy* (as minimum between the possible synergy and the desirable synergy). I will develop below some considerations about this proposal:

- synergy is, as known, one (or more) occurring of property (or properties) at the level of supra-system, which did not previously exist within no sub-system before its integration;
- a problem is arising here: synergy is generated by homogeneity or rather by heterogeneity? I will provide some reasoning:
  - if synergy's property occurs after appearing of the supra-system, and taking into account that the heterogeneity among sub-systems before integration is higher than the heterogeneity after integration[72], it results that the first cause for synergy's occurring is the homogeneity rising;
  - on the other part, the synergy (like, generally, any property) is generated and maintained by intermediation of relationships between (or among, after the case) entities (systems, phenomena, events and so on); now, it is obvious that the higher the heterogeneity the higher the chance to be developed relationships (of any kind) between (or among) the entities implied;
  - consequently, on the one hand, the homogeneity triggers the arising of synergic property in an integrated system, and, on the other hand, the heterogeneity maintains and replicates such synergic effects;
  - thus, it is obvious that the optimum threshold (if any) between ho and he in an integrated system should be based on the synergic effect of the integration in case
- whether the synergic effect (Chicharro & Panzeri, 2017)(more precise, the minimum between the possible and desirable synergic effect, as mentioned above) should be the criterion to establish the ration between ho and he, then we must talk about how exactly such an establishment could be done; I think the procedure which is applied must ensure that the synergic effect is neither too high nor to low[73] because, if it is to high, the difficulty to manage the supra-system increases (possible) exponentially, and, if it is too low, the benefit from integration does not justify anymore the integration in case (Figure 3 exhibits a logical scheme to be pursued in handling the issue of the synergy threshold in establishing the ration between ho and he;

[72] Remind that at least a common property must arise among sub-systems in order that integration be viable, so the new heterogeneity (under the supra-system) mandatorily is less than the old heterogeneity (without the supra-system).

[73] I mention that expressions „too high" or „too low" are not of theoretical (necessary) nature, but of empirical (contingent) one, that is, it is depending on the actual kind of the supra-system in case as well as on the general context (the environment) of that supra-system. Thus, the content of the two qualifications is provided by each historical occurring of the issue.

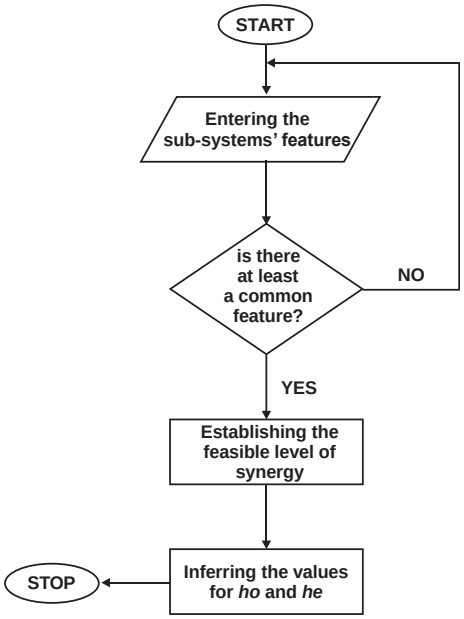

Figure 3 - Logical algorithm to establish the ratio between he and ho.

Source: Author

Passing from Heterogeneity to Autonomy

We have already seen that synergy (Chicharro & Panzeri, 2017) needs heterogeneity inside the supra-system that integrates a number of sub-systems. Now, the question is: how the supra-system passes from heterogeneity to autonomy, so building up the pair autonomy – synergy, which is, in fact, the very theme of this paper. Firstly, we must define, no matter how approximated, the concept of autonomy of a sub-system within an integrator supra-system. I think the following attributes must be accomplished by such a sub-system to bear some a degree of autonomy:

- *structural self-sustainability*, that is, the potential to replicate their basic functions; as the function is always the result of the structure, this comes to require the structural self-sustainability;[74]
- *resilience* to internal perturbations;
- *robustness* to external perturbations;

Based on the three attributes for the property of autonomy, I shall analyse now the logical possibility (or, if the case, the logical necessity) of passing of a supra-system from synergy (or, which is the same, as shown above, from heterogeneity) acquiring to autonomous functioning. This analysis will be provided as follows:

- if some degree of heterogeneity exists inside the supra-system, this means some number of sub-systems are different among them at least regarding a specific features;
- if an internal perturbation occurs at the supra-system level, its propagation will be blocked or, at least, slowed down by the very fact that some sub-systems do not „conduct" that perturbation because their structures which differ from the structures from which the perturbation in case comes;
- even if the perturbation succeeds in the first instance to penetrate the new sub-system, the latter's heterogeneity compared with the sub-system that acts as input will generate a restoration of the previous state of the sub-system penetrated – which is precisely the content of the property named resilience;

[74] Of course, one could go further and ask more, namely, the attribute of *auto-poieticity*. For the objectives this paper aspires accomplish, such a development is not necessary.

- now, if an external (that is, from outside of the supra-system) perturbation hits the supra-system, no matter through what sub-system, the heterogeneity of these sub-systems will act according to the following „algorithm":
  - the first impact will be entirely received by the sub-system "targeted" by the perturbation;
  - when the impact must be transferred from the sub-system impacted to another, the structural heterogeneity will cause either a diminishing of perturbation's intensity or a reduction of the duration inside which the perturbation acts – so, in other words, will cause a diminishing of the perturbation's quantity;
  - if the above described phenomenon of diminishing of the perturbation's quantity is replicated by further passing from a sub-system to another, this diminishing will eventually became equivalents with the disappearing of that perturbation – which is precisely the content of the property named robustness.

Thus, I proved that a given degree of heterogeneity in an integrator supra-system helps (if not, in fact, ensures) to gain the autonomy of the sub-systems in case.

Of course, the next question that immediately can be put is: is there a degree of heterogeneity which maximizes such an autonomy acquiring? Or, equally, is there a threshold of heterogeneity of supra-system above which the autonomy gained from heterogeneity could be compromised? Answering these questions will be, however, postponed for further interventions, because the space constraints for the paper.

On the Reciprocal Opportunity Costs Autonomy – Synergy

Like in the case of any decision, there is an opportunity cost of any choice. In the case of this paper's discussion, the question is: which is the opportunity cost of ensuring some a degree of heterogeneity (or, likewise, of synergy) inside the supra-system and, reciprocally, which is the opportunity cost of ensuring some a degree of autonomy of the sub-systems embedded into the supra-system? My opinion is the following:

(a) the heterogeneity increasing of sub-systems leads the supra-systems to renounce to the power of (the unique) leading sub-system generated by the integration process. Thus, the opportunity cost of heterogeneization of sub-systems seems to be the degree of centralism of the supra-system in case;[75]

(b) the opportunity cost of autonomy is the loses of the synergy provided by homogeneity of sub-systems[76], that is, the potential power of the leading sub-system generated by the process of integration.

Thus, it seems, in fact, that the reciprocal opportunity costs between autonomy and synergy are reducible to the variation of the decision power of the leading sub-system arisen as result of the process of integration of sub-systems into the supra-system. This „common exchange currency" between autonomy and synergy in the integrator systems seems be very interesting from the perspective of analysing particular integrator supra-systems like European Union, because the issue supplies links to the content of the two treaties which European Union is functioning on.

What About European Integration Process?

In the terminology used in this paper, European Union is a supra-system that has integrated a number of 27 sub-systems (the member states). From institutional perspectives, the leading sub-system generated by the process of integration consists in the European institutions created in this process: European Parliament, European Commission, European Council and the European

[75] I remind the reader that synergy is directly (although non-linearly) dependent from the heterogeneity. Thus, in fact, the opportunity cost of heterogeneity is the same with the opportunity cost of synergy.

[76] The suggestion that there is a synergy caused by heterogeneity exactly like there is a synergy caused by homogeneity should be further studied in order to explain entirely the phenomenology of the synergy in integrator systems.

agencies on specific domains of common interest. By the two treaties[77] in force, the prerogatives at the European Union level are shared between the leading sub-system and the member states (*TEU, 2016*.), under three categories: a) prerogatives which is entitled the leading sub-system; b) prerogatives which remain at the member states' disposition; c) prerogatives which are exerted commonly by member states and the leading sub-system or European Union (*TFEU, 2016*). Based on the above results and considerations, the issue of pair autonomy – synergy within European Union can be graphically represented as in Figure 4.

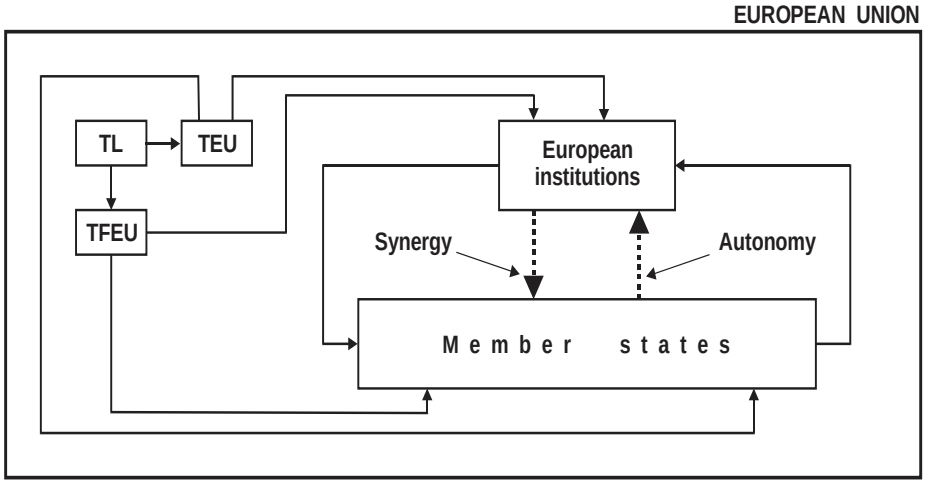

Figure 4 - How is working the pair autonomy – synergy at European Union level.

Source: Author

Results and Conclusions

When a supra-system is born by embedding a number of systems, the latter ones must keep at least a specific feature (that is, a feature that is not to be found at other sub-systems in case), and, in the same time, all sub-systems must share at least a common feature which justifies the supra-system forming. Thus, the process of integration sub-systems into the supra-system generates a ratio between homogeneity and heterogeneity of respective sub-systems. Both, homogeneity and heterogeneity cause, at the supra-system level, synergy. Based on synergy, the sub-systems gain some degree of autonomy, concomitantly with some degree of dependence from the leading sub-system which has arose within the supra-system by the very process of integration. In fact, to ensure the autonomy and dependence are the strict conditions of supra-system functioning. Such a mechanism is also found to the particular system of integration in the case of European Union (Piris, 2011). In fact, European Union's problems (including X-exit phenomenon) (Terzi, n.d.) are originated precisely in that ration between autonomy and dependency of member states. The synergy can improve the benefits provided by the integrated system of EU, but, in the same time, dependency from the leading sub-system can bring loses for the member states. The (convenient) equilibrium between the two processes is a question of building up the (institutional) relationship between autonomy and synergy.

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ON A TRADE-OFF RESILIENCE – CONVERGENCE IN THE ECONOMIC INTEGRATION IN EU

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Abstract:

The paper is focused on a possible trade-off which could arise between resilience and convergence in the process of Economic integration within European Union. The basic idea is the following: resilience requires some degree of differentiation, which is contradictory with the convergence in the economic field (but necessarily in the institutional one, as well). So, it seems the opportunity cost of the resilience is the convergence and vice versa. In such a context, the paper examines the risks and the associated costs in handling both the resilience property of the European integrated economy and the convergence process of the European integration. The main result is that the economic (and institutional) convergence must be limited to a sustainable degree which can also ensure the resilience of the European economy face to the rest of economic world.

Keywords: *resilience, convergence, EU, trade-off, opportunity cost.*

JEL Classification: *E02, F02, K00.*

Preamble

One of the most important processes of European integration is the process of convergence (at economic, institutional, maybe even at political level[78]). The economic convergence (Herr & Ruoff, 2018) is, almost always associated (connected) with another process, of a great importance, too, namely the process of cohesion (towards the well know three directions: economic, social, and territorial). Since, European Union forms, in fact, an institutional block, there is a European border (from political, military, and economic perspectives) which separates European Union from the third parties (non-member states in Europe and in the world). In this context, at least from the economic point of view (but, of course, from a general one, as well), arises a question regarding the potential of such an institutional block like European Union to manage the perturbations from outside (as is, for example, the current COVID-19 pandemic, which is, related to European Union and to its member states, an external, singular, and non-economic shock). The paper examines this question from the perspective of the pair resilience – convergence, especially in the economic field, in order to find (if any) an appropriate ration between them so that the stability (or sustainability) of European Union (Jones et al., 2012), as well as, of the member states be preserved.

Research's Objectives

The research developed in the paper has three main objectives to be accomplished: a) to provide a logical and comprehensive (that is as general and abstract as possible) definition of the resilience; b) to provide a logical and comprehensive (that is as general and abstract as possible) definition of the convergence; c) to propose an appropriate institutional mechanism which connect, in a specific functional pair resilience and convergence. In fact, I think that between the two attributes – resilience, and convergence, respectively, there is a trade-off, even if it is not pervasive and not permanent.

Methodology Used

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[78] See, for example, the permanent polemical between the con-federalist option and the inter-governmentalist one.

The research will be conducted based on a qualitative approach, specially using the logical tools of sufficient predicates for each concept handled, so the mechanism identified or proposed be in an abstract (and general) way grounded. Concomitantly, the research uses the institutional approach, namely an approach based on the role of institutions (norms, laws, formal procedures and so on) (Calleo, 2003), in order to specify the logical instruments to the particular case of European Union functioning.

Organization of Research

The research is organized in four steps. Such a way, each one step is presupposed by the previous one, so a logical order is put in place regarding the research structure. Thus, firstly, the concept of resilience of a general system is defined and clarified, showing the general way of its role and functioning. Secondly, the same is delivered for the „paired" concept, namely the concept of convergence, without examining the details of this process.[79] Thirdly, the two concepts and mechanisms are put together into an embedded mechanism, in order to identify and characterize the „expected" trade-off between them, in a more analytical way. Finally, all the significant results obtained for the general and abstract case are particularized on European Union case, that is ,on the European phenomena of resilience and convergence and, correlatively, on a possible trade-off in this particular case.

On the Concept of Resilience

Resilience is a property of a system (Von Bertalanffy, 1968) to recover its previous state from which has been shifted by some perturbation (disturbance). From a logical point of view such a property must verify the following sufficient predicates in order to achieve the mentioned function:

- (S) *structuralness*: this means, the resilience must be placed and integrated in the system's structure. More than that, the deeper positioned it is, the more effectively it works. Such a sufficient predicate is justified by the fact that resilience must accomplish a function (namely, to bring the perturbed system back to its previous state), but any function is the result of the structure, so the resilience „device" mandatorily must be inserted into the system's structure;
- (M) *memory*: resilience must be endowed (by any mean), at any moment, with the capacity to memorize the image of the system's state, so to „know" where it must bring that system from the perturbed state of it.[80]
- (P) *procedure*: resilience must have the capacity to effectively recover the initial system's state, which has existed before the perturbation had acted on it. Presupposing a procedure means to presuppose the resilience device can take decisions (again, either discretionarily or automatically) and, according to those decisions, can trigger actions which are aimed at to restore the previous state of the perturbed system. Formally, resilience (R) is the logical conjunction of the three sufficient predicates above mentioned:

$$R \leftarrow (S) \wedge (M) \wedge (P) \qquad (1)$$

Thus, if some device of a system is cumulatively endowed with the three sufficient predicates, then that device qualifies as resilience device, and the system in case can be named as a resilient system (Linkov, 2019). From qualitative point of view, the property of resilience can be characterized as follows:

(a) it acts as an state elasticity of the given system, since when the system is shifted from its place (or trajectory), its „elasticity" re-brings it in the previous place or on the previous trajectory;

(b) resilience does not accumulate tension generated by the perturbation, because, if such a tension would be accumulated, it is „spent" totally when it re-brings the system in the previous state;[81]

[79] Like, for example, the kinds of convergence and the associated models.

[80] From logical point of view, it is not necessary that the capacity of memorizing and re-bringing the perturbed system in its previous state be provided automatically, they can be performed discretionarily as well.

(c) however, despite the non-accumulation of tension caused by the perturbation, resilience cannot be stretched as much – there is a threshold above which the system in case definitively passes to the new state provoked by the perturbation.

The general mechanism which resilience works through is synoptically shown in Figure 1.

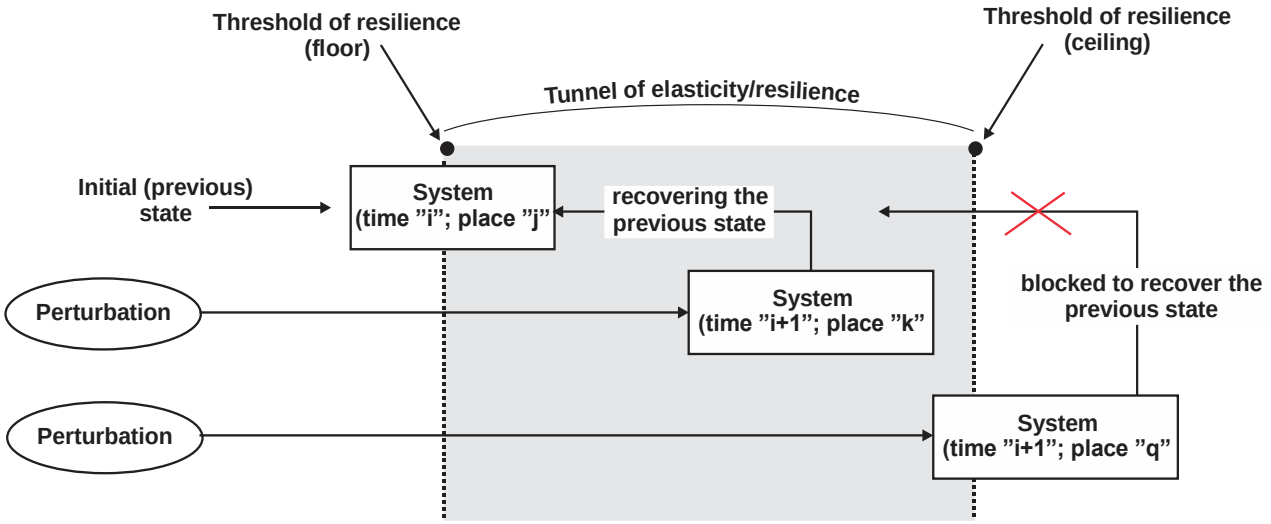

Figure 1 - The resilience mechanism in a generic system

Source: Author

On the Concept of Convergence

The general and based on the common sense concept of convergence means something as approaching to each other, or to go in the same direction or focusing on the same target and so on. For the needs of the paper we need, however, to provide a much more rigorous (and abstract) definition of the concept of convergence, so that we can operate with it in a non-ambiguous way.

- *firstly*, it must be said the convergence (Spence, 2012) is a property too. This property does, however, not address directly the system, but it addresses a process that is associated (in a way) with that system;
- *secondly*, in fact, the convergence of a given singular process does not make sense – to really have a convergence, at least two processes (either inside the same system or, usually, regarding more systems) must be put into relation;
- *thirdly*, even if two or more systems are taken into account to describe an embedding process of convergence, a benchmark must be established which entices the systems involved. This means the convergence per se does not make sense again, without be specified a target towards which the process of convergence in case goes;
- *fourthly,* the process of convergence must be also specified with respect to the very property (or properties) of systems in case which is expected to convergently move towards the established target.

Based on the above mentioned four sufficient predicates, now the concept of convergence can be defined as: *a process concomitantly assigned to at least two systems aimed at to develops a given property of those systems towards an established target accessible to all systems involved*.

Before to move forward, some qualitative considerations seems to be of usefulness regarding the general concept of convergence, as follows:

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[81] This is contrary to the *inertial* device of systems, which accumulate such a tension, so that when a given threshold of perturbation is reached (by such an accumulation of tension) the system in case jumps in another state definitively.

- the convergence process does not imply a punctual target, because its very definition – indeed, if a punctual target is focused to be reached, than the process of convergence disappears *eo ipso*. Here, an additional concept must be introduced. I propose such a concept, that will address the (mandatorily) non-punctuality of the systems engaged into the process of convergence, be called *homogeneity horizon* (HH) (Polyakov, 2020). This means the followings:
  - there is a gap between *the statu* quo of the convergence state and the target which is taken into account by that convergence, beyond which the convergence is finished as process and the systems involved must be considered as homogeneous from the point of view of the property that has been intentioned to converge;
  - the homogeneity horizon, in turn, cannot be theoretically established, it always is a contingent value (that is, socio-historically indicated);
- the convergence process does not imply fully homogeneity of that process – indeed, in the process of convergence, some episodes of non-convergence (that is, maintaining of the gap between *statu quo* and the target) or even of divergence (that is, increasing of the gap between *statu quo* and the target) could occur;[82]
- but a question should not be ignored here: what about the process of convergence in the case of which the degree of convergence enters into the homogeneity horizon? As suggested before, this could be a test for the convergence finishing. We shall see further that, from the perspective of resilience, until the homogeneity horizon is reached, another gap must be maintained, too. I would name this gap as *resilience horizon* (RH) (Čaleta, 2016) and I think it has two basic characteristics:
  - it corresponds, from structural (or even quantitative) point of view, the tunnel of elasticity/resilience of a system;
  - as, for the process of convergence, at least two systems are required (which are embedded into a supra-system), it results that the resilience horizon corresponds, in fact, to an overlapping of the tunnel of elasticity/resilience of the sub-systems involved in the process of convergence, according to Figure 2.

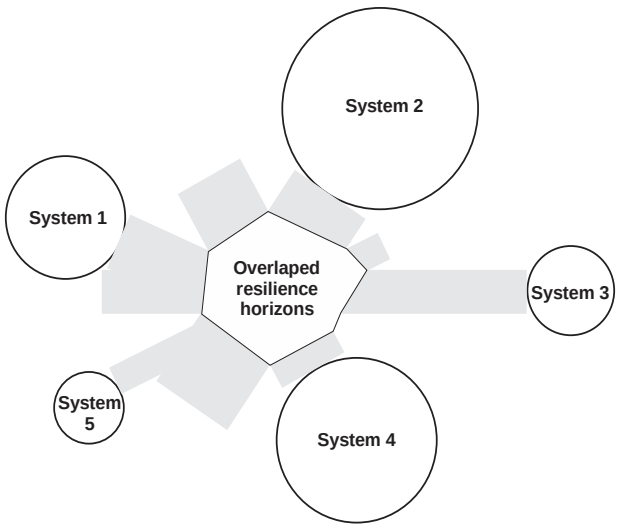

Figure 2 - The hard core of the resilience horizon among many systems

Source: Author

The general functioning of the process of convergence is shown in Figure 3.

[82] Of course, such occurring is not non-causal although it could be random. An examination of concatenation of episodes of convergence with episodes of divergence seems to be (scientifically) very interesting – for example, a divergence episode could accelerate the convergence, as well as a convergence episode could accelerate the divergence, and so on. But, obviously, the topic of this paper keeps me away from such more analytical (and more fine, too) developments.

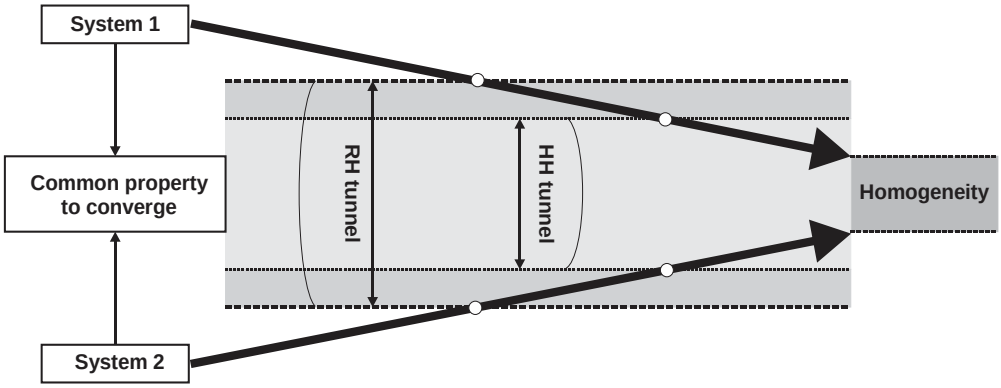

Figure 3 - The convergence mechanism in a generic supra-system

Source: Author

On the Pair Resilience – Convergence in Integrated Systems

After the brief clarification regarding the concepts of resilience and convergence, respectively, in this paragraph I shall put them together, in order to examine the joined mechanism resilience – convergence in an abstract (theoretical) supra-system which embeds a (usually not too high) number of sub-systems.

Basic Considerations

What it consists of, in fact, the trade-off between resilience and convergence? To find out, we must examine if there is an inverse proportionality between the dynamics of the two phenomena. To this end, a productive way is to see if there is a reciprocal relationship between their opportunity costs. The following statements could clarify this issue:

(1) when the convergence of sub-systems approaches of RH (Herr & Ruoff, 2018), this means that, inside the supra-system, there is a high degree of homogeneity. In other words, the structures of sub-systems are highly similar, which further means that the transmission channels of any perturbation among those sub-systems are very well functioning. This way, the perturbation propagates easier and, consequently, the probability that perturbation cannot be recoverable increases. Thoroughly, the opportunity cost of the convergence is the resilience: when one increases, the other decreases, and vice-versa;

(2) presupposing the resilience increases based on a process or event external to convergence (for example, by an institutional change), this means the channels of transmission perturbations among sub-systems become less performative, so the sub-systems behave as if they would be less convergent regarding the structure (Collins, 2019). Such a case indicates that, conceptually, the opportunity cost of the resilience is the convergence.

Based on the „game" between the two opportunity costs, we can justifiably draw the conclusion that there is a trade-off between resilience and convergence. Such a trade-off can be graphically drawn as in Figure 4.

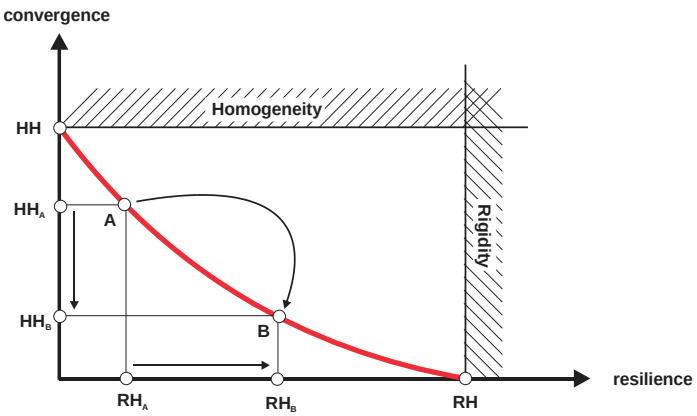

Figure 4 - The trade-off mechanism between resilience and convergence

Source: Author

Some Illustrative Formalisms

Firstly, some notations are needed:

- HH^t: the homogeneity horizon of the supra-system at the moment t;[83]
- RH_i^t: the resilience (or elasticity) horizon of the system i at the moment t;
- RH^t: the resilience (or elasticity) horizon of the supra-system at the moment t;
- $CP^{[t,t+\tau]}$: the convergence process evolving within the supra-system in the time interval $[t, t+\tau]$.
- $RP^{[t,t+\tau]}$: the resilience process evolving within the supra-system in the time interval $[t, t+\tau]$.
- RS^t: recoverable state of the supra-system at the moment t;
- URS^t: un-recoverable state of the supra-system at the moment t;
- P^t: perturbation exerted on the supra-system at the moment t.

Based on the notations, the following formal descriptions can be expressed, using the suggestions provided in Figure 4:

$$\left(CP^{[t,t+\tau]} > HH^{t+\tau}\right) \rightarrow URS^{t+\tau} \quad (2)$$

$$\left(RP^{[t,t+\tau]} > RH^{t+\tau}\right) \rightarrow URS^{t+\tau} \quad (3)$$

$$\left(HH^t < CP^{[t,t+\tau]} < HH^{t+\tau}\right) \rightarrow RS^{t+\tau} \quad (4)$$

$$\left(RH^t < PP^{[t,t+\tau]} < RH^{t+\tau}\right) \rightarrow RS^{t+\tau} \quad (5)$$

Combining conjunctively the above expressions, it can be written, too:

$$\left[\left(CP^{[t,t+\tau]} > HH^{t+\tau}\right) \wedge \left(RP^{[t,t+\tau]} > RH^{t+\tau}\right)\right] \rightarrow URS^{t+\tau} \quad (6)$$

$$\left[\left(HH^t < CP^{[t,t+\tau]} < HH^{t+\tau}\right) \wedge \left(RH^t < PP^{[t,t+\tau]} < RH^{t+\tau}\right)\right] \rightarrow RS^{t+\tau} \quad (7)$$

Specific Remarks on European Union

European Union is a typical case of a supra-system (Hood & Heald, 2012) (European Union as such) that integrates a (relatively small) number of sub-systems (the 27 member states). Since the process of (at least institutional and economic) integration is not yet completed[84], the structural differences among the sub-systems are still significant. As result, the convergence degree of EU is still below the level of HH. Consequently, EU has a relevant degree of resilience against external

[83] Including the moment of time when indexing of the homogeneity horizon of systems (as well as, further, the resilience horizon) is important because this gap (interval) changes in time, especially in medium and long term.

[84] The confusion between accession (a moment *of* time) to EU and integration (a process *in* time) into EU is very frequent among all sorts of experts and analysts (especially at enthusiastically TV debates).

(outside of EU) perturbations.[85] The problem that directly arises here is: how much the convergence process (especially at institutional level) should continue in EU? In stronger words, is the convergence process so desirable? And if yes, where this desirability cesses or where/when the process of convergence should stop from increasing, if the resilience is really a property which EU must preserve? Of course, these questions are themselves research topics and I think they should be urgently approached, especially as result of the recent Brexit (Baldwin, 2018) (and, possible, other X-exits tentatives). In my opinion, European Union should build an optimal ratio between convergence and resilience, and such an optimum must be the result both of political negotiations and of scientific grounding. The alternative is to increase the risk that, both from convergence and from resilience, the better currently placed member states (particularly from the economic structure and performance perspective) asymmetrically gain dividends from the process of European integration and, consequently to further encourage other X-exits (Terzi, 2020).

Results and Conclusions

The main result of paper is that resilience and convergence are strongly paired within any integrator supra-system. This pairing is based on the reciprocal opportunity costs of the two processes (and concepts), is non-linear and have specific „asymptotes" towards which they gravitate. Both concepts are of structural nature, so that they permanently deliver impulses in the supra-system functioning. None of them should be minimized as such, but an optimum ration between them is recommendable. When the supra-system is a social one, the political factor must be taken into account alongside the scientific grounding. European Union particularly faces precisely this trade-off between convergence (and cohesion) and resilience required by its environment (the so-called third parties) and a reform in this area seems be mandatorily in medium term. In such context, the new European Commission must be more imaginative, courageous and diligent.

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[85] I remind to reader that even the theories (models) of the optimal monetary area require (or presuppose) some degree of structural differences among the sub-systems embedded into the supra-system of that monetary area (for example, the model of free movement of labour force inside the monetary area concerned).

VALUE CHAIN SYNERGY AND AGRIBUSINESS ENTREPRENEURSHIP FOR A SUSTAINABLE DEVELOPMENT IN ALBANIA

Alba Demneri Kruja, PhD.[86]

Abstract:

Agribusiness as a concept became popular in the early 1960s where was defined as a sector including all operations in the production and distribution of agricultural inputs; farm production operations; as well as the collection, processing and distribution of farm products and by-products. But including its development as an agenda of the international forums will start only after the global crisis in 2010. Coordination and cooperation among the value chain actors is extremely important for the development of this sector. Now, agribusiness is perceived as a product industry and promoter of social and economic health, and for the Albanian economy, it is a very important sector which employs about half of the labor force.

This research addresses the necessity of a triple helix collaboration among industry-government-research institutions for the sector entrepreneurship developments to take place. The value of agribusiness lies in the synergy produced in its shell through the links in the supply chain, involved in the production and distribution of food and fiber to the needs of the economy. Study results show that the existence of a synergy among agribusiness value chain actors are the factors that characterize the sector`s entrepreneurial development and sustainability.

Keywords: *Agribusiness, value chain synergy, entrepreneurship, sustainability, Albania*

JEL classification: *L26, L25, Q13*

Introduction

Agribusiness as a concept became popular in the early 1960s, and Davis and Goldberg were the first to define it as a sector that encompasses the totality of all operations in: the production and distribution of agricultural inputs; farm production operations; as well as the collection, processing and distribution of farm products and by-products (Davis & Goldberg, 1957).

The global crisis of 2010 was one of the main factors in the inclusion of the development of the agribusiness sector in the agendas of international forums. Agribusiness is already seen as a product industry and promoter of social and economic health. It plays an important role in the development of a country's agricultural sector as suppliers of farming requisites, marketers of agricultural commodities and providing services such as storage and transport (Ortmann & King, 2007). Agribusiness refers to the collection global systems involved in the production, distribution, and consumption of food and fiber (Gill, 2013, p. 203)

Davis & Goldberg (1957) in their view of agribusiness, they divide into structural components of production processes, into sub-structures that can be administered in an integrated way. Concerning this point of view, the four main sub-structures of agribusiness are: (1) Agricultural Inputs / Seeds / Pesticides; (2) Agriculture / Primary production; (3) In processing plants; (4) Marketing and Marketing of Products.

Coordination and cooperation between these four sub-structures of the supply chain is extremely important for the development of the sector. A typical supply chain is presented in the figure 1 below.

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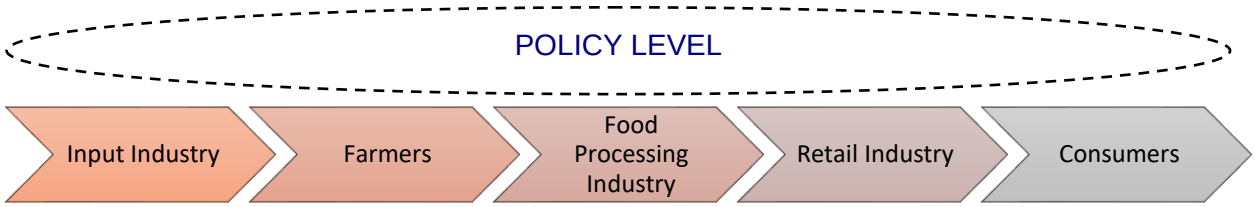

Figure 1. Supply Chain in Agribusiness

Source: Adapted from World Bank, 2005, p. 155.

Since agribusiness is measured in terms of functions performed on its system, this system itself is a natural system depending on the cycle of harvest and cycle of plant and animal reproduction. Agribusinesses tend to be interdependent (Mhlanga, 2010). High actual and perceived risks stem from coordination failures along the agriculture supply chain (CEPA, 2005). The final produce quality is dependent on any player in the supply chain.

Mhlanga (2010) argues that investment in improved storage and distribution services for agricultural inputs and produce will often only be more profitable if agricultural production increases. Similarly, investments in processing facilities will only be profitable if an expanded supply of high quality and competitively priced produce is available.

The existence of a synergy in agribusiness, rural development through input, processing, and distribution, are the key factors that characterize its development. On the other side, agribusiness offers a lot of employment and food for rural labor force expands the market, increases the incomes of those involved in the supply components with the processing and distribution of agro-industrial products. The value of agribusiness lies in the synergy produced in its shell through links in the supply chain involved in the production and distribution of food and fiber to the needs of the economy (Kruja, 2020a).

Challenges faced by agribusinesses not only in Albania but also in other developed countries include reform policies, increased global competition, the ever-changing social environment and complex customer requirements. These challenges demand that decision-makers effectively manage uncertainty and their business' resources to position their business in ways that will allow it to adapt to these changes and challenges (Van der Merwe & Lotz, 2013).

According to Baran & Velickaite (2008) entrepreneurial orientation can provide a mean to increase revenues and profits, develop products, services, and new processes to bring a competitive sustainable edge and develop the sector. To be competitive in today's "high tech environment" world, organizations need to offer specialized services and develop an innovative strategy that employs new technologies (Ahmeti & Kruja, 2020; Hysa, et al., 202; Kruja, 2020a). Knowledge is the key element of the innovation systems and the institutions which have an important role in its development include: universities and other academic institutions that develop and transfer knowledge; government organizations; and innovative businesses (Kruja, 2013a). Empirical studies show a positive relation among entrepreneurial orientation and performance, demonstrating that firms adopting a more entrepreneurial orientation perform better (Madsen, 2007). As Fitz-Koch, et al. (2018) suggest, a focus on the context of the sector can improve the "appreciation of the interaction between the various micro-foundations of new ventures and the ways they create value for their founders and owners".

An Overview of Agribusiness Sector Developments in Albania

During the last quarter of the century, Albania has experienced many transformations, coming up from an isolated form of communism in the early 1990s to face the substantial challenges of forming a responsive, democratic governance and developing a modern economy (O`Brien, et al., 2017). Albania is characterized by a promising geographic positioning providing abundance of

natural resources. One third is wet by the Adriatic and Ionian seas, enabling cultivation of agricultural products, the concentration of vegetables production, and the cultivation of fruit trees (Kruja, 2020b). For the Albanian economy, it is a very important sector which employs more than half of the labor force and contributes to one fifth of the country`s GDP (Gecaj et al., 2018). Due to the fact that the profits of this sector are very low, the number of employees from year to year comes to a deep decline, while the continuity, growth and development of this key sector of the economy is a necessity (Kruja, 2020c). Lack of profitable opportunities as well as high risk both current and perceived business, are also some of the main reasons for low investment in the sector. Sustainability is critical in this sector as domestic food producers need a balance of supply (from producers) with demand (from consumers) in the face of volatile wealthier and prices (Flora & Bregendahl, 2012). To satisfy the sustainability perspective, the best possible use of all available economic resources should be studied for the production of the maximum possible output of goods and services that are needed for the community now and in the future, as well as the just distribution of this output (Kruja, 2013b).

The level of infrastructural development in an economy affects the cost and efficiency of business operations (Mhlanga, 2010). Limited access to finance, low degree of professionalism, difficulties in recruiting qualified personnel, and the absence of economies of scale are among the challenges SMEs in Albania face (Kruja, 2013c). Improving infrastructural problems in rural areas such as roads (which are a major handicap to effectively transport products from one area to the market), electricity and water will have a positive impact on increasing investment in these areas. Furthermore, specific agricultural infrastructure such as product testing laboratories and certification purposes is a must if the sector is to be competitive, especially in line with sanitary and Phyto-sanitary standards for world food trade (Mhlanga, 2010). Meanwhile financial constraints for agribusinesses remain inevitable, especially for small businesses that do not own assets to serve as collateral. Agricultural subsidies in developed countries have contributed years of underinvestment to the agribusiness sector in developing countries (World Bank, 2007). These subsidies granted to producers of industrialized countries make the competitiveness of products of Albanian producers' unequal in world markets as well as imported products in the country.

Over the years, this sector has faced difficulties because of the introduction of imported products into the market. Imported products are one of the main challenges for producers and processors of agricultural products. Challenges facing agribusiness include reform policies, increasing global competition, the ever-changing social environment, and complex consumer demands. As with other sectors of the economy, the same critical components of a supportive development environment are needed for the agribusiness sector as well. Some of the factors that limit or favor the growth of this sector in Albania are summarized in the table 1 below.

Table 1. Factors Influencing Albanian Agriculture Sector

Constraining Factors	Favoring Factors
Production structures are fragmented and production equipment is deficient.	Wage levels are low compared to other European countries, especially in rural areas.
Efficient cooperation among farmers is scarce since the collapse of communism.	Abundant natural resources are available in the country, especially in mountain areas.
Irrigation systems at the community levels have many times ceased to operate.	Variety of microclimates and soils, which enable the production of a wide range of crops.
The Albanian market has been used in the past as "dumping market", especially for groceries.	Infrustructural improvements trigger new investments in rural and urban processing facilities.
General lack of understanding how a market economy should function and should be developed.	The ongoing improvements of the road system continuously reduce transportation costs.
	Albanian consumer`s raising preference to buy domestic products, but of good quality.
	Relative closeness to the EU market.

Source: Adapted from Bernet & Kazazi, 2012, p. 9.

Methodology and Data

To analyze the agribusiness entrepreneurial orientation, challenges and performance implications, a survey was distributed to the sector stakeholders. Exploratory and interpretive research is more likely to rely on primary data such as interviews, field notes, videotapes, and open-ended questions to surveys (Duriau, et al., 2007). Semi-structured interviews were conducted with 3 specialists from the Agricultural Technology Transfer Centre in Tirana; 3 specialists from the Directorates of Agriculture Food and Consumer Protection; 1 specialist from Ministry of Agriculture and Rural Development; 3 academics; 4 managers from agribusiness associations. Providing perspectives from different participants ensures the validity of the research. These techniques offer researchers an opportunity to gain richer descriptions of the specific social phenomenon in the study (Miles, et al., 1994).

To enhance the understanding of the collected responses, content analysis was implemented. This is a widely used qualitative research technique (Hsieh & Shannon, 2005). Compared to other

analysis techniques, it provides advantages allowing the investigator to investigate theoretical issues to develop a better understanding of the data.

Respondents were asked first to evaluate the agribusiness entrepreneurial orientation and on how to improve innovativeness, proactiveness, risk-taking, and competitiveness, to further improve performance. Next, they were asked on the barriers and challenges the sector is facing and on how to overcome these challenges through different means of value chain collaborations.

Results

Agribusiness sector is considered as innovator by 46% of respondents, who are entirely of the opinion that the application of innovations has a direct link with increasing the performance of agribusinesses. Only 23% of respondents think agribusinesses are proactive, while fully agree that its implementation would have a positive impact on performance. 85% of respondents think that agribusinesses take risks in their operations, while only 72% think that risk-taking would have a positive impact on performance, because of market uncertainty and collaboration issues. 69% of respondents think that agribusinesses are competitive while 100% of them think that being competitive will have a positive impact on performance.

Respondents think that the industry-government-academy collaboration is very important in developing entrepreneurship and the entrepreneurial skills of the agribusiness sector. Only 15.4% of them think that this impact is minimal or are neutral to it, while the rest believe this collaboration has an impact and in some cases this impact is very high. Even more important is the impact of “industry-government-academy” collaboration in the performance of agribusinesses, where 69% of respondents think that they have an impact and 31% of them that this impact is very high.

Related to the collaboration type, respondents give more importance to collaboration with government institutions (62%) and domestic firms (61%), followed by foreign firms (54%), universities (52%), agribusiness associations (46%), and innovation NGOs (16%).

Sector challenges identified in this study by the interviewed respondents are identified as:

- Lack of collaboration in the sector and financial opportunities were ranked as the most problematic challenges by 85% of respondents.
- Need of collaboration with research institutions and the need of trained personnel has been identified as a sectoral problem by 69%.
- While the lack of technological innovation applications by 46% and the lack of collaboration with government institutions and the lack of application of innovations in products by 31%.

Meanwhile, for the solution of the problems, 69% of respondents suggest as most important provision of financial opportunities; 62% application of technological innovations and staff training; 54% increase of collaboration with research institutions; 46% increased collaboration with government institutions; 39% application of product innovations and 23% increased sector collaboration.

Conclusions

The global crisis of 2010 was one of the main factors in the inclusion of the development of the agribusiness sector in the agendas of international forums. Agribusiness is already seen as a product industry and promoter of social and economic health. For the Albanian economy, it is a very important sector which employs more than half of the labor force. Since the profits of this sector are very low, the number of employees from year to year comes to a deep decline, while the continuity, growth, and development of this key sector of the economy is a necessity. Challenges facing agribusiness include reform policies, increasing global competition, the ever-changing social environment, and complex consumer demands. The year 2011 marked the beginning of declines in the Albanian economy because of the impact of the global economic crisis. These negative developments have been reflected in increasing uncertainty and have affected both the reduction of private consumption, investment in the sector and its competitiveness capabilities in world markets. Albania's economy is an efficiency-driven economy that needs to become more

competitive by increasing productivity (improving the production and quality process) and employee wages. According to the World Economic Forum to increase competition, it should focus on higher education and employee training, ensuring a market efficiency of goods and a well-functioning in the labor market, financial market development and efficient use of existing technologies for market expansion. Increasing competitiveness with new and unique products is accompanied by an increase in living standards.

The environment where agribusinesses operate is extremely risky. Lack of funds, skilled labor, and various collaborations with both governmental and research institutions and within the sector are the main reasons for the lack of application of technological innovations that are crucial to the sector development.

Because of capital needs, lack of market research and possible collaborations, most of agribusinesses are not proactive. They try to differentiate their products by applying different strategies related to the presentation of products or their improvement. Even though proactive behaviors emerged in large businesses, which have market research and investment opportunities.

This research addresses the necessity of a triple helix collaboration among industry-government-research institutions for the sector entrepreneurship developments to take place. The value of agribusiness lies in the synergy produced in its shell through the links in the supply chain, involved in the production and distribution of food and fiber to the needs of the economy. Study results show that the existence of a synergy among agribusiness value chain actors are the factors that characterize the sector`s entrepreneurial development and sustainability. Increased collaboration between government institutions - research institutions and the sector would increase opportunities and facilitate entrepreneurs in implementing innovations, taking risk, and enhancing their performance.

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CHALLENGES OF SUSTAINABLE ECONOMIC DEVELOPMENT IN ALBANIA

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Abstract:

After the post-communism transformation, implementation of free-market organizations, and progression of living standards, post-transition countries like Albania, seem to highly depend on good governance. As such in this paper, we are going to discuss the main factors hindering back the development of Albanian's economy. More specifically the relationship of the number of population, trade, governance, inflation, remittances, wages and labor. This article adopts a qualitative methodology approach. The duration period of the following analysis will start from the post-transition phase 2000 until 2019. We noticed that population, FDI, remittances and good governance were the main factors hindering the development of Albania's economy. On the other hand, factors like labor and trade had no significant impact on our case. The limitations of the study consisted of the lack of data before 1990, as there is no information and finding a solution as to why Albania is still a developing country.

Keywords: *Trade, Labor, Population, Good Governance, Sustainable Development.*

JEL classification: *O11, P27*

Introduction

Albania is found in the Western Balkan region, a region with different ethnicities. In the Western Balkan region, Albania is found to have the lowest ethnic diversification, of about 98% of the population is Albanian (Hysa, 2020). Albania during the last past decades has experienced a major transformation, in terms of economy. It emerged from an insufferable isolated form of extreme communism in 1990 and entered to a new form of democratic government while trying to adjust their position in the world market. The transition was dramatic, as the economy short-after under 3 periods of transition. The first being the 1990-1997 crisis, which became a major obstacle in terms of growth as the pyramid schemes and conflicts caused chaos in the country (Korovilas, 2010). After 2000, the GDP per capita reflected an even smaller share of GDP compared with developed countries. After 2000, the country's GDP started to double. The second crisis consists of economic growth instability as it grew from remittances, FDIs and mostly construction (Petersen, 2012). This rapid yet unstable growth lasted up until the global financial crisis. And the third crisis happened during 2008-2013 where Albania experienced not only lower growth but also failed to determine strategies to prevent economic failure (Sufaj, 2015). However, are these the only reasons why Albania has been performing worse over the years? The aim of this paper is to offer an insight as to why the economy is still underdeveloped. As we will observe later in the paper, the growth rates of GDP of Balkan, in general, have been higher than some European countries, especially before the World Crisis, logically the impact would show a higher level of development in the economy but also in society. Yet, the binding constraints have been setting back Albania from converging into a

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developed country. According to the Government of Albania (2013), the main obstacles are **Lack of productive knowhow**: Limited diversification in the private sector area. The strongest sources of investments have been FDIs and skilled immigrants. **Rule of Law**: Corruption in the bureaucracy and judiciary institutions; policy reversals and risk of investments. New businesses are faced with these three sensitive problems when wanting to diversify their investment in this economy. **Transportation infrastructure and education.** The first constraint has been an issue at all times. Despite the fact that it has improved these recent years, connectivity with other countries and transportation costs stay an issue. On the other hand, education in Albania in terms of investment stays the lowest in the region, with only 2.3% of the country's GDP according to the Ministry of Finance (2018), the lowest amongst the OECD countries. Investment is low quality causing quantity and quality of skilled labor force to be competent enough to face the world market.

However, economic growth and development are more than just high GDP, it includes many other factors such as the standard quality of nations, high quality of life, education, health, lifespan and more.

The structure of this paper is as follows: Section 2 will consist of a Literature Review, where we will discuss the main policies and address the issues of the main reasons why developing economies have difficulty in moving forward. In Section 3 there will be the Methodology part, where we will compare each variable and find the relationship, they form with each other. How they have affected the slow back of this economy and then compare it with other OECD countries. Section 4 will consist of Results and Discussion, future strategies to implement and address some specific macroeconomic constraints.

Literature Review

Post-communist countries all seem to share the same issues. They have difficulties transitioning from centralized economies into an open market. Highly unstable political conditions affect many pillars of a country such as high inflation, fall in GDP, rise in unemployment, worsening of social values and more. During the first years of the post-communist government, two inclinations tend to show: immigration to western Europe or other OECD countries and remittances. In Albania, the mass movement of people consisted of skilled labor that hurt the economy the most when it came to evolve in the technological and service sector of the economy.

Trade Policies Toward Less Developed Countries

According to Krueger (1980), developing countries have commonly used either an inward-looking set of policies; they restrict imports and encourage the growth of domestic import-substitution industries otherwise they have encouraged an export-promotion policy. According to her, the second policy has boosted the economy to more rapid growth. In the case of Western Balkans, they have implemented import restrictions on some products, in order to boost local industries. Despite the fact that Albania has chosen the second type of policy, this theory doesn't refer to this case.

However, in general, Western Balkans share the same policies and are very similar to each other, that is why the World Bank, (2017), has offered a free trade agreement with these countries. As referred to the study of Feruni and Hysa (2020), trade agreements have positively effected the Albanian GDP. According to Qorraj and Jusufi (2018), this trade agreement would only benefit institutional reforms rather than trade creation and economic perspective, as Albania lacks comparative advantage. It would only create lesser opportunities to local firms who cannot keep up.

On the other hand, different authors state that despite the fact that trade has its own gains, it is not a stating factor for development. Krueger (1980) states that Heckscher-Ohlin model should not be a representative for all countries. The model states that there are only two goods, where one is left out, and the activity in the production of tradable can be undertaken until the international marginal rate of transformation (IMRT) is the same as the domestic marginal rate of transformation (DMRT); there is no production in lines where DMRT is greater than international price ratio. Yet, this does not suggest the relative importance on the export/import section has been merged, so we can't proclaim that a country's growth rate comes only from the export earnings. The 4 Asian tigers are called a miracle when it comes to development. And their basic policies focused on export policies, established ports, which facilitated their way of becoming the world's wealthiest nations (Winkler, 2017). At the same time period, these policies weren't that effective for Turkey, Colombia, India and Argentina. So, we can say that there is not a strong link between export performance and growth rates.

Labor Policies

Labor is another factor that contributes to economic development. One of the main turning points in China's economic development was the labor force. Surplus labor that came from agricultural employment in the countryside is not skilled enough to handle the modern economy. This concept has a close relationship with Albania since they both came from a communist economic policy. According to Garnaut and Song (2006), labor became scarce and valuable, this caused real wage to increase and the real exchange rate increased as well. Causing a chain reaction towards more capital-intensive industrial sectors, that required more technological advancements at the cost of labor-intensive sectors. Minami (1973), followed the Lewis Model where it states that rapid economic growth is driven by the presence of 'surplus' labor in the traditional and rural economy as it transitions into urban areas. These changes apparently put pressure on wages as this movement causes an increase in capita land or other sources. This causes the marginal productivity of labor to increase thus the trend of incomes follows as well in the rural sector. Labor supply of rural areas becomes inelastic and therefore it needs income incentives in order to produce movements of labor in the rapidly growing modern economy.

Auzina-Emsina (2014) links labor productivity and economic growth during the periods of post-crisis. The author compares the recent trends of labor productivity and economic growth in post-crisis periods with trends in crisis and pre-crisis. After conducting several types of researches, the author argues that the relationship is either weak or there are no relations between productivity and growth in pre-crisis and post-crisis. Nonetheless, the author argues that what will determine the outcome after the crisis, is how well productivity increases during the period of crisis.

Dritsakis, Stamatiou (2016) ran bounding tests based on the long-run relationship between inflation, unemployment with economic growth. Their empirical results revealed that in the short run, even in the long run there is no direct relationship between unemployment and economic growth, as well as no direct causality running from inflation and economic growth. They based their research on Okun's law, where it states that there is an inverse relationship between output and unemployment. Okun's law state there is a rule of thumb type of analysis, where there should be a 4% increase in the GDP, in order to have a 1% decrease in unemployment. Despite the fact that unemployment and inflation are considered the main factors of growth, the results show otherwise.

Population Growth: Different Point Of Views

Population growth during the early stages of literature portrayed insignificance regarding economic growth. Neo-Malthusian antinatalist arguments stated that population growth was not a factor in constraining economic growth as voiced by Ehrlich (1971). It was Kelley (2001) who shed light on this matter that noticed that a decline in OECD countries appeared to slow the development of the economy. However, different papers tell different results. Klasen and Lawson (2007) examine the link between population and growth in Uganda, a less developed country. Despite the fact that the country has worked on reducing poverty and currently has the highest population growth, the link between the two factors is weak. There are not strong evidences to conclude that even more, this high population growth in fact puts a break in the per capita growth. It seems that population

growth has only a significant impact on developed countries and less relationship in less developing countries. Taking the case of Africa, India and China where the population combined is more than 3 billion and their GDP is almost the same or even higher than developed countries, yet they lack the basic human conditions. Fengler (2010) states that despite the successes of these countries, population does not necessarily cause economic growth.

Regarding longevity, does greater life expectancy is related to economic development? Authors Acemoglu and Johnson (2006) exploited the international health innovations and improvements that started in 1940. They ran many tests regarding mortality based on various diseases around the world. Their results were that changes made in life expectancy impact the population, a 1% increase in life causes an increase of about 1.5% in the population. However, no real changes in total GDP over a lifespan of 40 years. They stated that there was no evidence of changes to increase life expectancy would lead to an increase in GDP per capita. Meaning that despite the efforts to fight health conditions in less developed countries is significant and effective; they are not the root that causes poverty in some of these nations.

The last significant factor that has an effect on economic development is the demographic age structure. Zhang (2014) studied the framework of the age structure of 28 Chinese provinces. They discovered that changes in age structure are closely related to provincial growth rates. From the period of 1995-2005, the shifts in size and internal demographic of the working-age population, account for nearly 1/5 of the increase in GDP per capita. Furthermore, shifts in age structure across different provinces explain the 1/8 of inter-provincial wage disproportion.

FDI And Remittances

During early 2000 have been a great support for the Albanian economy. A study by Fayissa and Nsiah (Fayissa & Nsiah, 2010) research the impact of FDI and remittances in the framework of growth through the period from 1980-2004 in 36 African countries. They discovered that both factors play a major role in having a positive impact on the economic growth. They provide an alternative way of financing investments and help in overcoming liquidity issues. In developing countries, such as Albania, remittances take a wholesome part of international capital flows and they even surpass FDI (Guliano & Ruiz-Arranta, 2009). In fact, a study by World Bank (2006) infers that remittances have experienced higher growth than FDI. Another study done by Shera and Meyer (2016) show the effect of remittances in the Balkan Region, Albania is one of them. According to them, during the period of 1999-2013, there was an increase in remittances which represented more than 10% of GDP. Suggesting that there is a positive relationship between growth and remittances.

Law Policies Regarding Good Governance

This factor includes many subcomponents where the main is good governance, political stability and low violence, government efficiency, corruption control and law enforcement. A study of Governance and economic development of Western Balkan countries by Pere (2015), the results from the analysis she conducted showed that economic development in terms of governance could only be interpreted in a long term. There was no significant relationship between the two of them, at least for the period of 1996-2012. An article from the Reuters (2018), says that Western Balkan countries would take almost 200 years to catch up with EU standards. They base their analysis on a forecast scenario with two outcomes, a positive and pessimistic one. The pessimistic scenario would mean that WB can reach up only in 2220, while the optimistic one states that WB can catch up in 40 years, by 2053.

Methodology And Analysis

In the previous section, we discussed generally the main factors that would cause economic development and growth. In this section, we will provide graphs and data in order to understand

what causes the main setbacks and prolongs the Albanian economy to transit from a developing economy to a developed one. The main factors we will discuss are GDP growth rate, trade, labor, population, remittances and rule of law; all these data are taken from the period of 2000 up until 2017.

In order to conduct a proper econometric regression analysis, we would need at least 30 variables, however, there is a lack of information, so it would be biased and unclear to state where the problem lays. That is why we notice the shifts in trends over the years and notice how the economy has performed. Furthermore, we will compare some of these results with the growth of neighboring countries.

Analysis of Trends

Gathering information provided from Bank of Albania, World Trade in Economics and World Bank, we will notice 3 main variables interacting with each other, such as GDP growth, unemployment and remittances in % of GDP, in Figure 1. We observe these factors first, as we consider them to be the main macroeconomic factors that indicate how the economy is performing. As we conclude from the theories that when remittances fall, the growth will decline too, as they share a positive direct relationship; causing a rise in unemployment as well, especially during the post-crisis period where it rises again. Remittances played an important part in the Albanian economy, as it depends on immigration. We notice that when remittances started fluctuating after the crisis, the GDP growth was affected by it, unemployment too. This is also supported by the study of Vladi and Hysa (2019). Suggesting that it goes on par with the theories mentioned above, it is a significant variable in determining growth and development.

GDP, Remittances and Unemployment

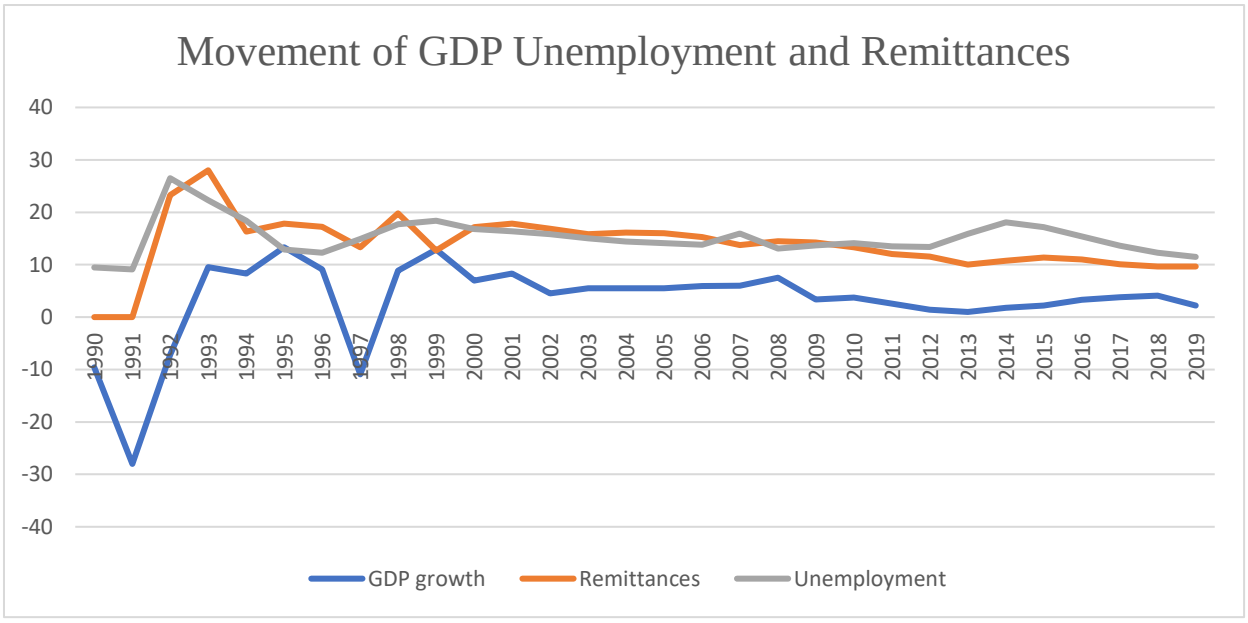

Figure 1: Movement of GDP, unemployment and Remittances in % of GDP

Source: World Bank, 2020

Trade Relationships: A Historical View

Another factor that affects growth is Trade. Albania is mainly an importing country in the three sectors of the economy. Despite being once focused on agriculture, the lack of technology and

open economy it failed to keep its status (Berhani and Hysa, 2013). As we notice from Figure 2, there are fluctuations during the period of 1990 to 2000, and then it seems to have a parallel relationship between exports and imports. However, it doesn't conclude that it's a setback or progress in terms of economic development. Developed countries like Norway, Sweden import more than they export, the difference stands in the fact that these countries have found their comparative advantage. Focusing on one industry and developing in that. The economy should at first focus on export-promotion policy or domestic-import policy, taking notice of how this would affect the local market. The only indicator which would affect helping the economy grow is by finding in which sector it performs best.

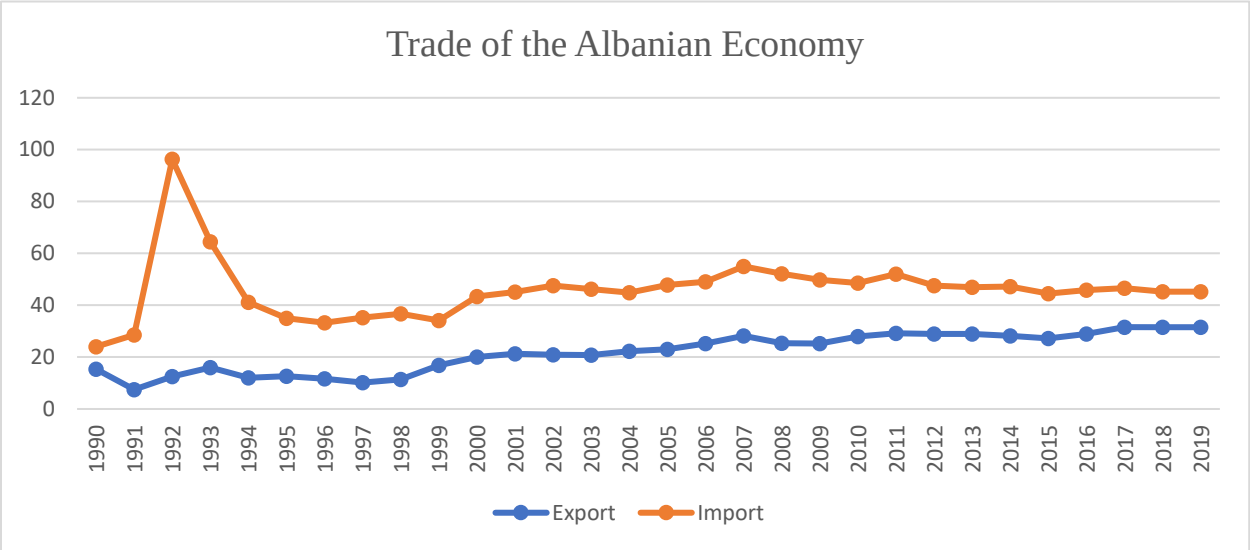

Figure 2: Trade of the Albanian economy over the period between 1994-2014

Source: World Bank, 2020

Because Albania's rich in natural resources, it would make sense that the sector of extracting industry is the most profitable one. The next sector contributing to both GDP and employment in the Construction sector, with almost an increase of 40%. Followed by electricity with a growth of 25% and Others, which is mostly retail with a growth of 44%. However, if we compare these data with newer ones we notice a shift in growth.

We notice that there is a sharp decline in every sector of the economy, mainly because of the global crisis and a shift in the political agreements during these years. The implementation of higher taxes and restrictions caused many setbacks in some sectors. In Tourism, the prices increased and drove many firms out of business. In manufacturing, we have FDI and because of tight laws and unaffordable tariffs caused them to pull out of the Albanian economy. This brings us to another section suffering from these declines, unemployment and wages.

Wages and Income Distribution

The average monthly wages have increased over the years in every sector, which shows that the economy is evolving when compared to itself. Yet it still stands at the lowest paying region in Europe with a minimum wage of 24,000 ALL, suggesting that with a family of 3 the daily pay is 260 ALL, still above the world's poverty line. Following the theories in the Literature Review, we would say that with the rise in wages the one who would be impacted is inflation. In the case of Albania, as seen in Figure 3, the theory stands only in the first stages of 2000-2003 where we notice an increase in wages and a sharp increase in the inflation rate with approximately 7.7%. Throughout the years the inflation rate has continued to stay stable despite the rise in average wages.

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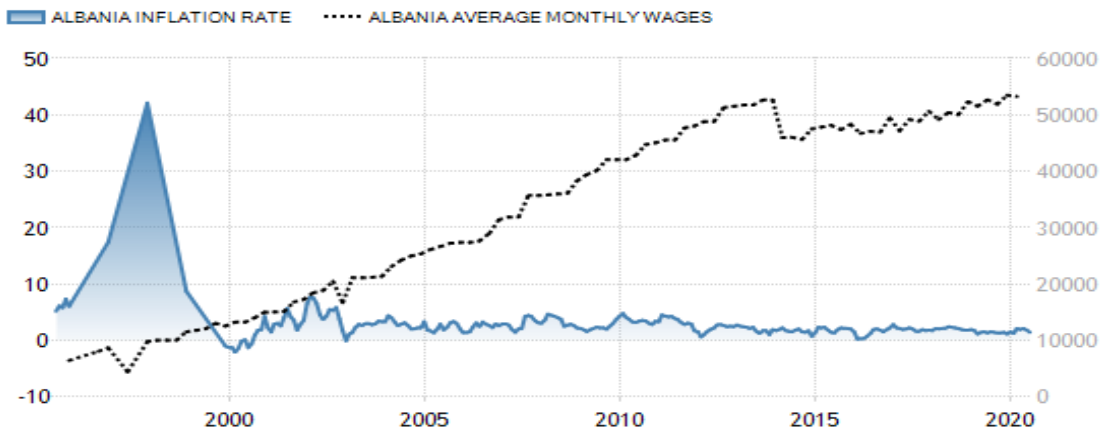

Figure 3: The relationship between inflation rate and average monthly wages in Albania, 200-2018

Source: Trading Economics, 2020

If we compare that and the GINI coefficient of Albania, which stands at 33.2 in 2017, and income distribution we would say that Wage is not a significant factor withholding Albania from development. In Table 4 we show a summary of income distribution and in Figure 4 the GINI coefficient from 2000-2013.

From the percentages, we observe that only 1.43% of the population lives on $2 a day which is acceptable. If we were to divide the distribution into classes, from the table we would say that there is a fair and the gap is not high between the lowest class and highest class, with the most percentage belonging to the middle-income class. In the Figure below, the GINI coefficient backs this conclusion and shows us that the inequality in Albania does not contribute to the factors hindering development.

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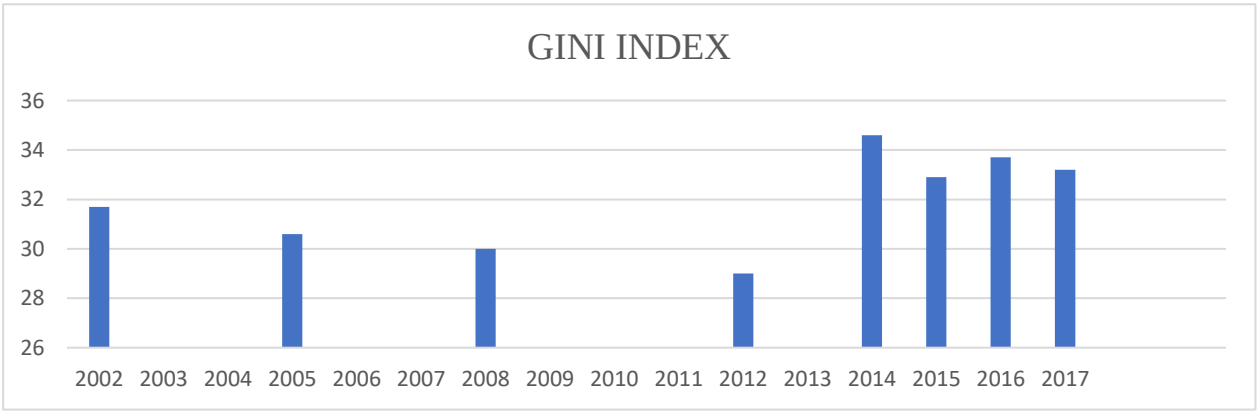

Figure 4: GINI coefficient for Albania in 2013

Source: World Bank, 2020

Population and Demography

Population growth and distribution of demographics is another factor that contributes to development. Currently, the population is almost 3 million. Considering the theories where the high number does not cause causality, it proves the relationship between population and GDP growth. An increase in the population does not necessarily mean an increase in GDP, as observed in Figure 3. We also need to consider the distribution of the number of people and the age construct.

The city with the most density remains the capital of Albania. This has caused an overall increase in the region's local budget.

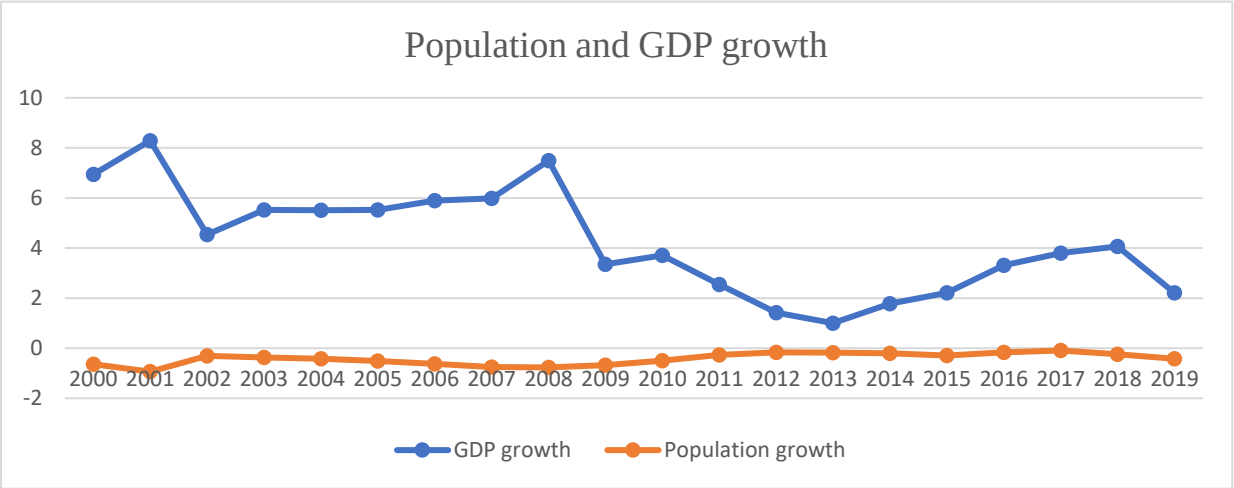

Figure 5: Relationship between GDP growth and population growth

Source: World Bank, 2020

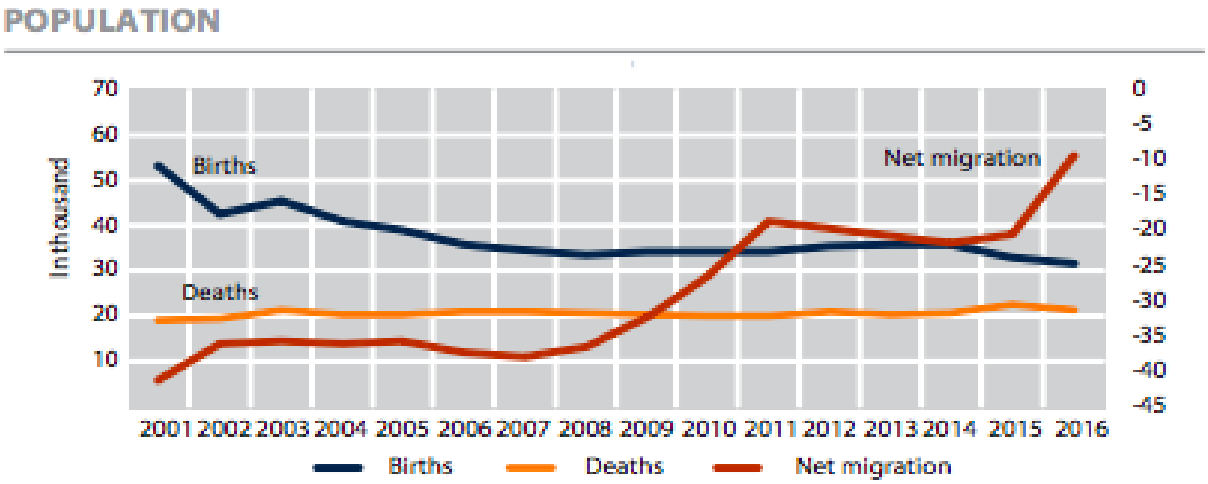

Figure 6: Population Growth, Births, Deaths and Migration

Source: INSTAT, 2016

During 2016 the number of births exceeded the number of deaths by 11 thousand; however, this difference is decreasing over the years. On the other side, the net migration still remains negative (The difference between emigrants and immigrants is diminished by 54% when paralleled with last year.)

The number of elderly people has increased, resulting in an aging population. The age group 60-79-year-old holds about 17% of the population, 7% more than in 2016. The age group of 80+ underwent from 1.3% in 2001 to 2.4% in 2017. While the group 0-14 shows a declining trend with only 18% in 2017, the same as in 2011.

As we mentioned before, the capital of Albania holds 30% of the population followed by Fieri (11%), Durres (10%) and Elbasan (10%). During 2001-2017, the trend of the number of the population seems to decrease in other prefectures and move toward urban areas such as Tirana, Durres and Vlore. On the other hand, Gjirokaster seems to have the lowest population with only 2.3% of the population. In figure 6, there is the population pyramid that shows how the population leans more on labor force and elder generation than the young generation which shows a sign of developed countries (Ibrahimaj, 2017). However, in future generations, this will decline our development as well. The economy will not be able to fill in-demand occupations which brings us to a decline in productivity. Eventually, the labor costs will increase as well and expansion in terms of business and international competitiveness will be delayed.

As we will notice in the next table, the reason there is a decline in the population is the high mean age at birth with approximately 27 per both genders and the average fertility rate is at most 2 children per family. Telling us that women are focusing more on their career and professional side and less on being mothers. Other than that considering Life expectancy and health factors, the age in both males and females is 80 and 76 on average which shows that quality of life is good and close to developed countries and during the past years it has increased. In this sector, we would say that Albania follows the high standard of life. Also, the Marriages and Divorces rate does not appear to be problematic as per 1000 inhabitants we have in average 8 marriages and 1,7 divorces.

Good Governance Indicators

The last factor that contributes the most in Albania's setback is governance and bureaucracy. We have taken this indicator in acount given that good governance is diretly related to the human development (Hysa and Cela, 2019), thus having direct and positive effects in the economy. We will observe the 6 indicators from the World Bank. The ranking is of 230 countries on the bases of percentiles. This suggests that the better the ranking, the more positive is considered the manifestation of that country. Furthermore, the World Bank evaluates each indicator from -2.5 (Bad performance) to +2.5 (good performance). If we were to evaluate Albania based on the ranking, out of 230 on average the country stands at 50 in ranking which tells us that it is performing well as a country. Nonetheless, based on the index valuation we notice a different side.

As we observe from Figure 7, **Rule of Law** indicator evaluates law enforcement. It is without a doubt the worst indicator out of the six. It shows a slight improvement in 2014-2016 with a value of -0.39 only to increase again in 2018. When compared to the ranking with an average of 40, they belong to 35-55% of 230 countries analysed. It still remains better out of the total, however, it performs worse when compared with developed countries. So it remains a setback on Albania's development. **Corruption Control** goes hand in hand with law enforcement as it is quite problematic with and an average of -0.6, even higher than the first and the ranking stands at 33 meaning that it is better with only 33% of countries. **Voice and accountability** generally show positive signs with a rising trend, the highest value 0.2 in 2017 and the lowest 0.02 in 2012. **Political stability** overall shows good signs. The country suffered a decrease in 2011 but that only reflected the revolutions, the indexes improve as the times pass. **Governance stability** shows negative signs with slight positive trends in recent years, yet the ranking (55) seems to increase over time meaning that the country still hasn't found the right balance when it comes to governance efficiency. **Regulatory quality** has a ranking of 60 on average and an index valuation of 0,2. It has kept the same trend from 2010 to 2017. It has not shown any signs of improvement.

The trend can be observed better through Figure 7, the movement shows no stability as it increases and decreases through a period of 16 years. The Good governance indicators show the weaknesses of their introduction and implementation. We should underline: gaps in law enforcement, levels of corruption, weak legal system, property rights and judicial impartiality. There is insufficient cooperation between the government and the parliament. They lack in regulatory impact analysis.

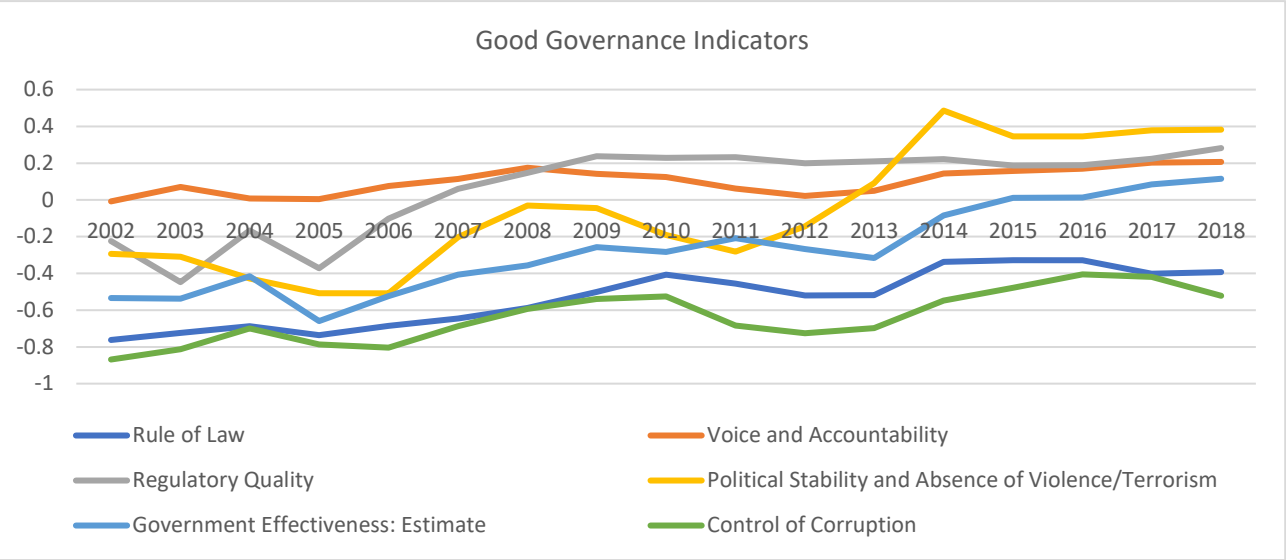

Figure 7: Good Governance indicators, a trend (2002-2018)

Source: World Bank, 2020

ANALYSIS AND DISCUSSION

To summarize all the findings in the paper, comparing each variable, we come to a certain conclusion. To understand why an economy still stands at a developing stage and why it doesn't evolve is difficult to find the roots. However, taking in the factors above, we conclude that Remittances, Unemployment and GDP have a close relationship with each other. High remittances in Albania boosted new businesses therefore the employment rose upwards quickly and that enhanced the GDP of Albania during the period of 2000-2008. After that, the World Crisis had a huge impact on the economy as FDI and remittances started to slow down since most of the population lived abroad.

Trade had another impact in the case of Albania. It appeared to fluctuate a lot in a decade. Almost every sector of the industry had lowered profits and many businesses were out of the market in a short period of time. This instability caused high unemployment and therefore a drop in the GDP of the country.

Wages and income distribution is the third factor taken into consideration. In the literature review, the only issue that stood by raising wages was that inflation would also rise and cause more problems than solving the issues. However, from the trend during 2000-2017, the wages rose abruptly eventually enhancing the development of Albania's population. This rise, fortunately, did not have a direct relationship with inflation, as we observed that it remained constant during the last 17 years. Furthermore, the gap between the rich and poor is not high, and the most percentage is occupied by middle-income families. Therefore, wages and income does not significantly cause a drawback on the economy.

Regarding the population factor, health and longevity seem to be on the positive end of the spectrum, on the downside the population is shrinking as it is the birth rate is dropping every year. This is because women are focusing more on their career compared to the past years also because of immigration of the working-capital of the country. This has caused a downside in the development of Albania. However, population growth had no impact on GDP growth.

The last but the most important factor is good governance. The valuation and stability of the government have not increased over the years. There is little trust and corruption is high (Hysa, 2011a, Hysa 2011b). The high levels of corruption in Albania, are continuing to be so because of the existing problems with the rule of law (Pici et al., 2014). On the positive side, violation, voice and accountability have continuously improved over the years.

CONCLUSION

From observing the trends during the past 20 years in Albania regarding certain factors influencing the economy, we notice that we lean more on the developed countries rather than developing countries. In a way that most theories of developed countries come on par with Albania's economy. FDI and remittances were highly significant, suggesting that low investment has an impact on the state's health; it depends on it. Population growth has declined over the years and this decrease has not affected for good the development in Albania. The fall in the working force and emigration is contributing to slow growth. Wages, however, do not have a significant impact. The biggest factor contributing to slow economic development continues to be good governance, as there is no trust in how the law is executed. The index valuation is low, and it needs to improve more with time, in order to have stability. Education, health and other social factors do not have a significant effect on growth, compared to economic reasons. Despite all, it was very difficult to pinpoint an exact factor that contributes to slow economic development as some theories stood true for us and others did not.

Limitations of this study were two, the first is that it is difficult to measure economic development and how to improve it, in order to pass from one scale into an upper one. The second was a lack of data. To go beyond 30 years, in order to have a clearer picture of Albania, it is very difficult as the country was in a communist regime.

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EUROPEAN UNION INSTITUTIONS' RESPONSE TO COVID-19 PANDEMIC

Grațiela Iordache, PhD. Student[89]

Abstract:

*The paper aims to review the measures taken by the **European Union institutions** in response to the present health and economic crisis. This approach is useful to understand the extent to which the European Union's institutional response to crisis situations, such as the current one, is adapted to the circumstances both in terms of response and in terms of the nature and scale of the efforts made. To this end, I will first define the concept of institutional response. Then I will identify the main institutions of the European Union involved in the European Union's reaction. Subsequently, I will make an inventory of the measures taken by the European institutions as well as a brief analysis of them in terms of potential impact. Finally, I will conclude on the institutional response of the European Union in terms of reaction speed, the appropriateness of the measures taken and their size.*

Keywords: *European Union, fiscal measures, institutional response, economic crisis*

JEL classification: *E50, E60. E70*

Introduction

The last 12 years have meant, for people worldwide, the confrontation with two major crises: the financial crisis from 2008 and the health and economic crisis generated by COVID 19 pandemic.

If the response of European Union Institutions to 2008 crisis was rather slow and sometimes fumbling one (see Greece example), the response to 2020 crisis was prompt and more targeted. Amid a wavering start, the European Union mobilized its resources, succeeding in proving that, when absolutely necessary, the much desired solidarity of its member states facing a major crisis.

The present short paper aims to review the institutional measures taken by European Union institutions and analyze their relevance, size and time.

Description of the Problem

a. Concept of Institutional Response

The first step of the process will be to define the concept of Institutional Response of European Union's main organizations.

For the purpose of this paper the Institutional Response means all administrative and legislative measures taken by European Union's institutions that address the EU member states and aim at ameliorating / removing the negative effects of a harmful event.

b. European Union's institution response

All EU institutions have taken specific measures, according to their field of activity, in response to the current crisis generated by the COVID 19 pandemic.

However, for the purpose of this paper, I will, only, review the measures taken by:

- European Commission

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- European Council
- European Central Bank
- European Investment Bank

The European Union's institutions harmonize their effort to reach the maximum effect of their effort to mitigate coronavirus outbreak.

c. Measures review

1. European Commission's response to Covid 19 pandemic crisis

The role of European Commission is to coordinate the common response of European Union to COVID 19 pandemic crisis.

According to their website(https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response_en) the efforts of the European Commission materialized in the following:

- Recovery package of €1.8 trillion that combines the EU budget for 2021-27 and NextGenerationEU. Under the agreement the Commission will be able to borrow up to €750 billion on the markets.
- Temporary state aid rules- provide liquidity to member states' economies to support citizens and save jobs in the EU.
- Activating 'escape clause' that allows maximum flexibility to our budgetary rules. This will help EU countries support healthcare systems and businesses, and secure people's jobs during the crisis.
- Help Member States to protect critical European assets and technology in the current crisis. (screening of foreign direct investment)
- Economic policy guidance to all EU Member States in the context of the pandemic.
- Temporary Support to mitigate Unemployment Risks in an Emergency (SURE) is designed to help people keep their jobs during the crisis
- Financial support for hard-hit small and medium businesses
    - The EIB Group aims to invest an additional 20 billion Euro in small and medium-sized businesses.
    - The Commission is already mobilizing 8 billion Euro to help at least 100,000 companies, together with the EIB Group.
- Investment Initiative-Unspent cohesion policy funds used to provide Member States with immediate liquidity.

2. **European Council's response to Covid 19 pandemic crisis, according to their website (https://www.consilium.europa.eu/en/policies/coronavirus/timeline/:**

- Approval of 87.4 billion Euro in financial support for member states under SURE- EU's temporary instrument to mitigate unemployment risks during the COVID-19 crisis
- Approval of 2020 budget increase for COVID-19 response- Additional 6.2 billion Euro to the EU 2020 budget to address the impact of the COVID-19-crisis. The additional funds will go to:
    - development and deployment of a COVID-19 vaccine: the European Commission will use this money to pre-order vaccine doses (€1.09 billion)
    - Corona Response Investment Initiatives (CRII and CRII+): redirecting money from the EU budget to tackle the COVID-19 crisis (€5.1 billion)
- Approval of the recovery package and the European budget for 2021-2027

- 750 billion Euro recovery effort. 390 billion Euro from the package will be in the form of grants and €360 billion in loans. Agreement for a long-term EU budget for 2021-2027 of 1074 billion Euro

3. **European Central Bank's response to Covid 19 pandemic crisis, according to their website (https://www.ecb.europa.eu/home/search/coronavirus/html/index.en.html):**

- Helping the economy absorb the shock of the current crisis-The €1,350 billion pandemic emergency purchase programme (PEPP) aims to lower borrowing costs and increase lending in the euro area.
- Keeping borrowing affordable-Supporting access to credit for firms and households-increase of the amount of money that banks can borrow from ECB and made it easier for them to borrow for loans to small and medium-sized firms.
- Responding to short-term concerns related to pandemic effect- smooth over any temporary funding issues for solvent banks by offering immediate borrowing options at favourable rates. This support helps banks continue granting loans to citizens and firms in need.
- Increasing banks' lending capacity-less strict about the banks' buffers for difficult times
- Preserving financial stability through international cooperation- currency swap lines so that central banks can meet increased demand.

4. **European Investment Bank's response to Covid 19 pandemic crisis, according to their website (https://www.eib.org/en/about/initiatives/covid-19-response/index.htm):**

- Pan-European Guarantee Fund (EGF) to tackle the economic consequences of the COVID-19 pandemic. The Fund was endorsed by the European Council as part of the overall EU COVID-19 response package. It will enable the EIB Group to scale up its support for mostly small and medium-sized European companies, providing up to €200 billion of additional financing.
- Financing package that will go towards bridging loans, credit holidays and other measures designed to alleviate liquidity and working capital constraints for SMEs and mid-caps. The EIB Group, including the European Investment Fund, which specialises in support for SMEs, will work through financial intermediaries in the Member States and in partnership with national promotional banks.

  The financing package consists of:

  - Dedicated guarantee schemes based on existing programmes for immediate deployment.
  - Dedicated liquidity lines to banks to ensure additional working capital support for SMEs and mid-caps of €10 billion;
  - Dedicated asset-backed securities (ABS) purchasing programmes to allow banks to transfer risk on portfolios of SME loans, mobilizing another €10 billion of support.

The potential impact of all these measures on economic recovery of the European Union economy is described in the Table 1, as it follows:

Table 1

Potential Impact of the measures taken by European Institution in response to COVID 19 crisis

No.	Measure	Impact
European Commission		
	Recovery Package	High
2.	Temporary State Aid Rules	High
3.	Escape Clause	High
4.	Screening foreign direct investments	Moderate
5.	Economic guidance for member states	Moderate
6.	SURE	High
7.	Financial support for small and medium businesses	High
	Investment Initiative	High
European Council		
1.	Approval of SURE	High
2.	Approval of budget increase	High
3.	Approval of the recovery package and the European budget for 2021-2027	High
European Central Bank		
1.	Helping the economy absorb the shock of the current crisis	High
2.	Keeping borrowing affordable	High
3.	Responding to short-term concerns	High
4.	Increasing banks' lending capacity	High
5.	Preserving financial stability	High
European Investment Bank		
1.	Pan-European Guarantee Fund	High
2.	Financing package that will alleviate liquidity and working capital constraints for SMEs and mid-caps	High

Source: Author

Conclusions

Reviewing some of the measures taken by European Union Institutions mentioned above we may observe the following:

I. European Union's institutions analyzed in this paper proved to have administrative capacity to build a coherent response to the coronavirus crisis

II. Compared with the speed of the response of European Institutions to the 2008 crisis, the reaction to coronavirus crisis was faster and more articulate

III. European Institutions transformed the pandemic crisis into an opportunity to move forward to fulfillment of its major goals such as digital transformation or Green Deal

IV. The fiscal measures taken are a step towards a potential fiscal Union due to

European common fiscal response in time of crisis

V. The measures taken solidarity proved, once again, the solidarity of the member states, strengthening the position of Europe globally

Future Directions

This short paper can be developed in the future by:

i. Monitoring the economic and social effect of the measures taken by European Union institutions

ii. Identifying ways to speed up the European Union's Institutional Response to crisis

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THE EVOLUTION OF THE AUTOMOTIVE INDUSTRY IN THE CONTEXT OF THE COVID-19 PANDEMIC

Alexandra-Ioana Lazăr, Ph.D. Student [90]

***Abstract*:**

The COVID-19 pandemic had a major impact on the european automotive industry as demand for cars has fallen significantly. Specialists from IHS Markit estimate, in 2020, a decrease in sales volume by at least 22%.

Starting from this premise we will try to identify a series of measures meant to support automobile manufacturers that are facing disruptions due to the SARS-Cov2 pandemic.

The results will highlight the importance of the strategic vision and the influence it has on company performance.

Keywords: R&D, strategy, automotive industry

JEL classification: L6, L60, L62

Introduction

In the context of the SARS-Cov2 pandemic, the World Bank (2020) estimates a 7% decrease in economic activity in heavily industrialized countries as a result of large-scale social distancing measures, tightening of financing conditions and the collapse of external demand. Among the most affected industries is the automotive industry.

The automotive industry generates a turnover of over 7% of EU GDP and invests EUR 57.4 billion annually in R&D, being the largest private contributor.

Numerous studies suggest that sustainable competitive advantages involve considerable investment in R&D that innovative automobile manufacturers hope to recover them through the benefits of adopting a competitive strategy and developing strong strategic partnerships. In this context, David Elvers, Chie hoon Song (2014) considers that before any strategic collaboration, the behavior of potential partners must be taken into account and Das and Teng (1998) highlights the importance of partner compatibility expressed by the appropriate cooperative attitude that will lead to increase the probability of success.

Michael A. Cusumano and Kentaro Nobeoka (1992) point out that the high level of productivity and sales growth in the Japanese automotive industry is due to the implementation of specific structures and processes. They do not identify the relationship between productivity and quality but they believe that the implementation of precise conceptual models that closely connect the competitive position of the company with the company's management would be imperative.

The Thai automotive industry is the engine of the economy with a network of thousands of national and international companies that contribute significantly to economic growth. In order to maintain the sustainable competitive advantage Chamsuk Wawmayura, Fongsuwan Wanno and Takala Josu (2017) tried to identify how improvements can be made to the automotive industry regarding its infrastructure and capacity. The structural equation model developed using AMOS software highlighted the key role of CD&I activities in developing the innovation potential of the Thai automotive sector.

Description of the problem

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The cessation of global economic activity had a strong impact on the production process and on the entire supply chain and because of that the automotive industry confronted a pronounced decline in both demand and investment all this causing a decrease of gross domestic product. Closing down plants in Europe and North America has led to the withdrawal from production of about 2.5 million road vehicles for passenger transport, which led to losses of $ 77.7 billion.

In response to restrictive measures taken by EU member states to prevent the spread of the COVID-19 pandemic, industrial production fell by 27.2% in April this year compared to April 2019. Most of the measures implemented were a negative effect on industrial production the most affected being the production of motor vehicles which decreased in March and April 2020 by 33.5%, respectively 68.5%.

The impact of COVID-19 on the European automotive industry is unprecedented most automobile manufacturers being forced to close production for weeks or even months this year. Although the exact effects are still unknown, statistics indicate the extraordinary impact on automobile manufacturers and on employment in the EU as shown in the table below.

Table 1

The impact of SARS-Cov2 on European automotive industry in March-May 2020

Country	The number of affected employees	Average shutdown duration (working days)	Estimated loss in production (number of vehicles)
Austria	14307	34	26480
Belgium	30000	25	33360
Croatia	700	29	-
Czech Republic	45000	29	155060
Finland	4500	25	11604
France	90000	35	278425
Germany	568518	30	616591
Hungary	30000	22	51552
Italy	69382	41	157933
Netherlands	13500	25	30819
Poland	17284	36	101957
Portugal	20000	35	41525
Romania	20000	31	68673
Slovakia	20000	24	114632
Slovenia	2890	27	19399
Spain	60000	34	452155
Sweden	67000	15	23464
United Kingdom	65455	41	262715

Source:The Automobile Industry Pocket Guide 2020/2021, The European Automobile Manufacturers' Association (ACEA)

According to data provided by the European Automobile Manufacturers' Association (ACEA), between March and May 2020, employment fell in most EU countries, with Germany registering the highest number of unemployed people, followed by France and Italy.

This year, in april, Eric-Mark Huitema, general manager of ACEA, who represents Europe's biggest manufacters of cars, trucks, vans and buses, said it was to Europe's advantage to

revitalize the automotive industry because it is a strategic key that brings an important contribution to the EU's industrial strategy, to the European Green Pact and to the innovation performance.

In this sense, the European Automobile Manufacturers' Association (ACEA) proposes, post-crisis, the implementation of four key principles for a stronger green European car industry:

1. Implementing a strategy that has as main objective the relaunching of vehicle production, in a safe way, based on ensuring equitable conditions of competition and the flexibility to establish new trade agreements;
2. Speeding up investment in renewing the entire infrastructure;
3. Depreciation of type-approval and new vehicle registrations;
4. Stimulating market demand for all vehicle categories.

Methology and Data

ACEA member and one of the most technologically innovative companies in Europe, the Volkswagen Group was strongly impacted by the Covid-19 pandemic situation shown in the following figure.

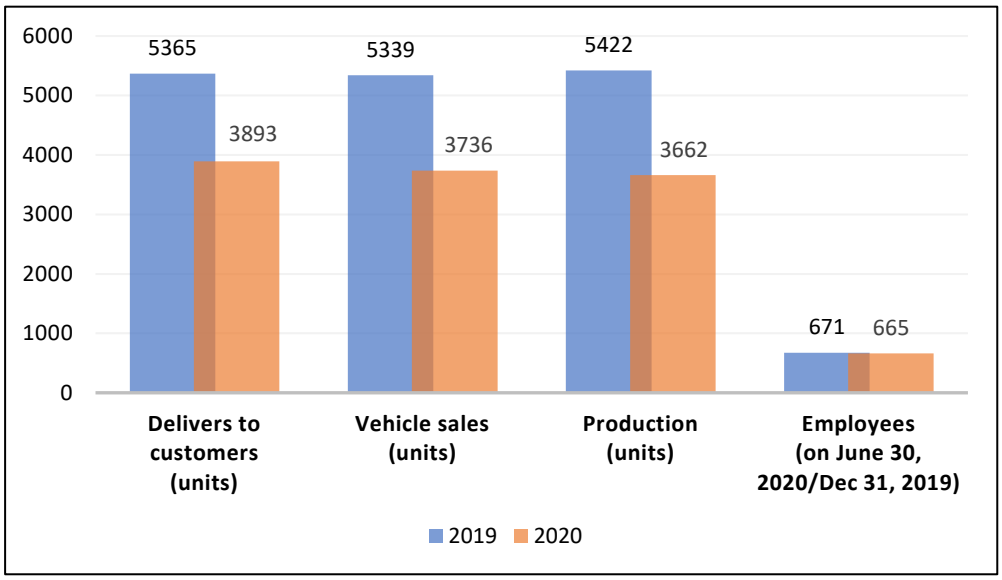

Figure 1 – The impact of COVID-19 pandemic on Volkswagen Group in the first half of 2020 (volume data in thousands)

Source: Half-yearly Financial Report, January-June, Volkswagen 2020.

As can be seen in Figure 1 in the first half of 2020, Volkswagen Group's deliveries decreased with 27.4%, vehicle sales with 30% and production with 32.5%.

If in 2019 the Volkswagen Group delivered in Western Europe about 1.94 million cars and in Central and Eastern Europe about 378 thousand from January 1 to June 30, in 2020 it delivered about 724 thousand, respectively 102 thousand less.

The biggest decrease was registered in the United Kingdom, with 47.8%, followed by Spain with 46.9% and France with 41.2% according to Figure 2.

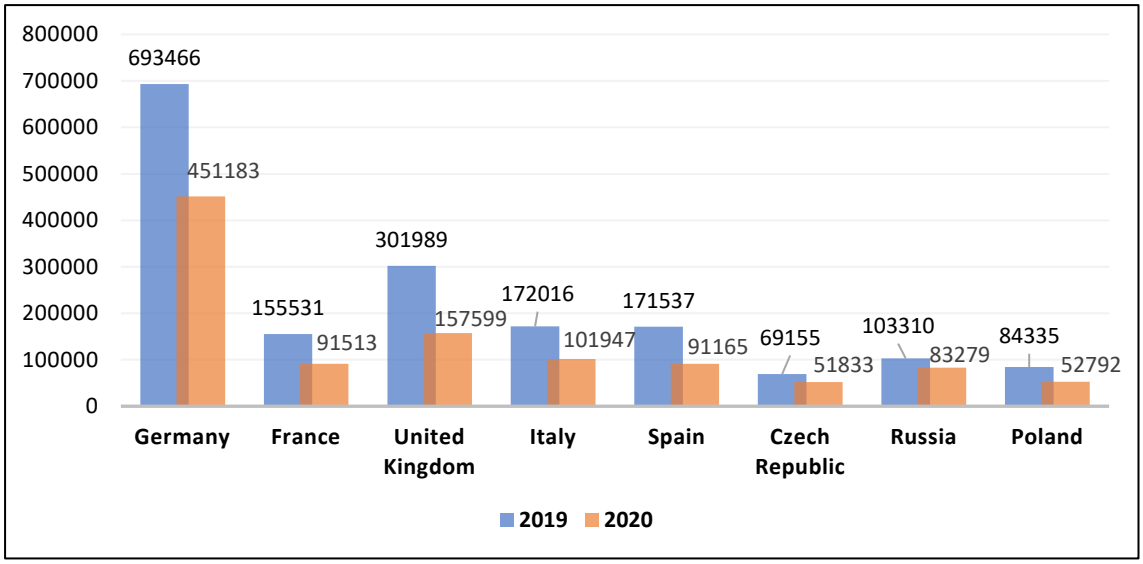

Figure 2 – Volkswagen Group deliveries in 2019-2020 (units)

Source: Half-yearly Financial Report, January-June, Volkswagen 2020

Sales revenues also decreased with 23.2% and total R&D expenditures with 4.8% as shown in Figure 3.

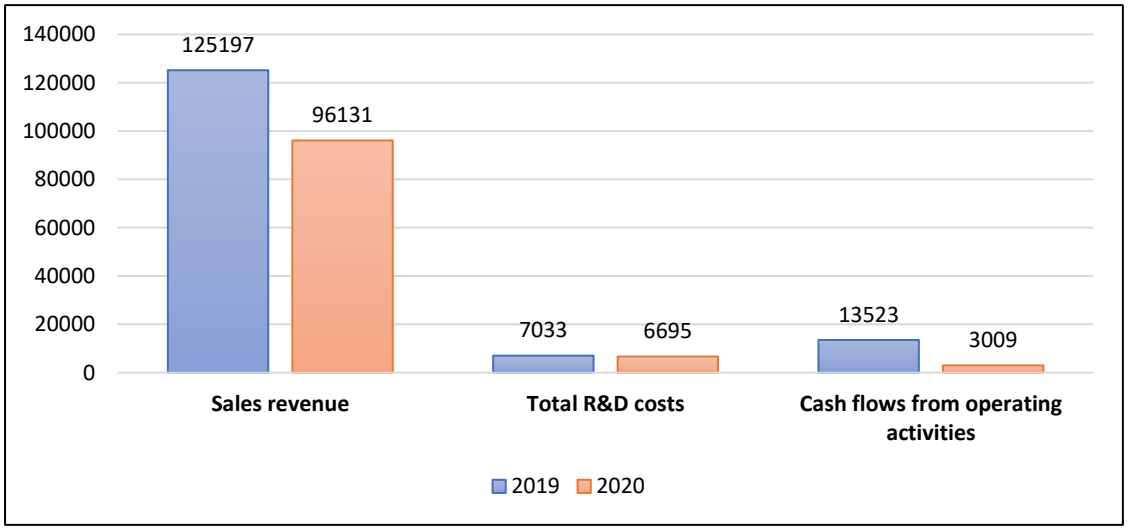

Figure 3 - The financial data of Volkswagen Group in 2019- 2020

(€ million)

Source: Half-yearly Financial Report, January-June, Volkswagen 2020

Referring to the information provided by the Volkswagen Group, we considered it imperative to highlight the safety measures it had implemented in order to support the production process.

In China, Volkswagen has implemented safety measures in 32 of the 33 plants that have resumed operations and thus, no COVID-19 infections have been reported among employees, managing to keep the risk of infection very low.

In order to prevent the spread of coronavirus and to ensure the safety of employees, Volkswagen Group implemented hygiene measures in all plants, according to to the table below.

Table 2

Measures implemented by Volkswagen Group in its plants to prevent COVID-19 infection

Entrance/exit of employees
Contact limitation
Temperature check (the access is forbidden for those with high temperature)
Delimitation of the distance by marking the floor at intervals of 1.5 m
As a result of the reduction of seats number inside the means of transport, Volkswagen provides a bigger number of buses for its employees
Bus cleaning/disinfection
Wearing masks inside buses
Installing sinks for disinfection before and after turnstiles
Turning the turnstiles is done only with the elbows
Carrying out the activity in safe conditions
Given that the locker room area is heavily trafficked Volkswagen recommends equipping employees at home to avoid contact
Cleaning/disinfection of all contact surfaces is performed twice on each shift
In order to clean/disinfect the sinks are placed at intervals of one meter
Toilets are also cleaned/disinfected twice per shift
It is recommended to wear masks and gloves during the activity
The work areas are extended by placing additional chairs
At the beginning of each shift the employees will be informed of the exact safety and hygiene measures
Assigning clear responsibilities among employees for hygiene, team, quality
Logistics
Proper disinfection of all instruments and surfaces
Installing plexiglas between employees and carriers at the unloading point (avoid direct contact with them)
Providing information about COVID-19 prevention measures adopted through multilingual brochures
Activity organization
Implementation of the flexible work schedule (two working days from home, one day at the headquarters)
Formation of work teams in such a way that they do not carry out their activity simultaneously
Avoid meetings indoors with more than five people
Ensuring a minimum distance of two meters
Encourage online meetings via Skype
Encourage work at home if the job description allows
Breaks
Cleaning / Disinfection, twice per shift, of areas dedicated to daily rest
Avoiding meetings
Closing smoking areas
Gastronomy
One-person access to the kitchen
Adapting the catering concept to the given situation
Reduced variety of food
Lunch is served as a package
The area where lunch/coffee is delimited by tracing the markings at intervals of 1.5 m
It is recommended that a maximum of two people attend to business lunch
One-person access to the kitchen
Adapting the catering concept to the given situation
Reduced variety of food
Lunch is served as a package
Hygiene safety measures
Cleaning/Disinfection before/after the use of shared objects
It is recommended to delimit the distance between offices by marking the floor at intervals of 1.5 m
The access to lifts is allowed for a maximum of two people
Installing separators in areas where employees frequently come into contact with customers
The permanent ventilation of workspaces (the use of air conditioning is not recommended)
The disinfection of the air conditioner by frequent replacement of filters
Prohibition of meetings of any kind (e.g.: breakfast meetings, birthdays, etc.)
Mandatory distribution of existing communication materials
Communication of preventive measures
Press communication of the resumption of production
Ensuring the complete package of information to management and team leaders
Plant visits are prohibited

Source: Volkswagen Group

The Volkswagen Group was severely impacted by the pandemic in the first half of 2020, but the implementation, at an early stage, of measures to prevent Sars-Cov2 infection was successful and therefore reduced the effects of the crisis. With a well-developed plan, the Group has provided to its employees, customers and business partners a safe working environment.

Conclusions

According to specialists from the International Labor Organization, the annual turnover of the automotive industry is equivalent to the sixth largest economy in the world - India.

In the context of the pandemic, the automotive industry faced a sudden and widespread cessation of economic activity.

In Wuhan, the epicenter of the Covid-19 outbreak, renowned car companies such as General Motors, Honda Motor, Nissan Motor, Peugeot Group (PSA), Renault and Toyota Motor were operating, which had to be completely shut down.

In a short time, many plants were closed in Europe, which led to the dismissal of 1.1 million employees in March 2020, more than half of them coming from the German automotive sector.

Concidering these aspects, world governments have taken steps to alleviate the impact of Covid-19. The policy monitoring tool provided by The International Monetary Fund draws attention to the measures they take in 196 countries.

It is currently unclear whether these measures will have a positive impact on automotive industry and whether automobile manufacturers will be able to benefit from their implementation and access financial assistance, but according to the Joint Declaration on COVID-19 issued by the International Organization of Employers and the International Trade Union Confederation, on March 2020, social dialogue has a key role in consolidateing the confidence needed for their effective implementation.

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INNOVATIVE FINANCIAL INSTRUMENTS IN THE CONTEXT OF THE EUROPEAN GREEN AGREEMENT (2020-2050)

Otilia Manta, PhD., Scientific Researcher[91]

Abstract:

The European Investment Plan for European Green Transactions - The new EU growth strategy to promote the transition to a climate-neutral economy by 2050, is taking shape by launching the European Investment Plan for Green Transactions (Sustainable Europe Investment Plan). The plan addresses three issues: mobilizing funding of at least € 1 trillion from the EU budget and other public and private sources over the next decade; putting sustainability at the heart of investment decisions in all sectors and supporting public administrations and project promoters to create a strong focus on sustainable projects.

The main objective of this work starts from the fact that in the period 2021-2030, at least 1 trillion euros will be mobilized, sustainable investments by increasing the resources dedicated to climate actions within the EU budget and by using additional public and private funding. It is estimated that about half of the amount would come directly from the EU budget and incorporated into EU programs, while other public and private sources would provide the rest, mainly through leverage. Together with the amount expected by the European Investment Bank (EIB), the potential for financing climate targets would amount to about 1.75 trillion euros. Thus, in the most affected regions, the EU will provide financial support and technical assistance through the so-called Fair Transition Mechanism, i.e. contribute to the mobilization of at least EUR 100 billion over the period 2021-2027. Furthermore, during this programming period, the Commission will develop and/or extend the Sustainable Procurement Screening tool and a new and strengthened methodology for climate integration, with strong performance indicators and provisions to prevent any financial support for climate-damaging measures, and provide tailored support to public investors in implementing their projects.

The paper aims to identify and design innovative financial instruments that meet the requirements of the climate strategy and as support points in the strategy on fiscal restructuring in the European Union.

Keywords: *financial instruments, sustainable development, environmental equity*

JEL classification: *G23, Q01, Q56*

Introduction

The European Union (EU), is a supporter and leader in the fight against climate change at the international level, is expected to further intensify its actions in this field during its institutional cycle 2019-2024. On 11 December 2019, in her first weeks in office, *European Commission President Ursula Von der Leyen* launched the *European Green Deal* as the new *EU growth strategy to promote and facilitate the transition to a green, competitive and inclusive economy*. Such a major economic transition requires huge financial investments, including to ensure that the process benefits all parts of society and to support the citizens and regions most exposed to the costs of decarbonization. Based on the current target of reducing greenhouse gas (GHG) emissions by 40% by 2030 compared to 1990 levels, the European Commission has estimated that additional investments of € 260 billion per year will be needed year to meet this target. Given that the environmental agreement intends to increase the intermediate target of reducing GHG emissions by at least 50% by 2030, the resulting financial needs will be even greater. For this reason, a

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measure planned under the Environment Agreement is an investment plan to mobilize public and private funding towards the objectives of a fair transition to a green economy.

On 14 January 2020, the *European Commission* published a communication detailing the European Investment Plan for Green Transactions, also known as the Sustainable Europe Investment Plan. The investment plan, which complements other initiatives expected under the European Green Agreement, aims to make available and use the funding needed for the transition to 2030, seeking to put sustainability at the heart of both public and private sector investment and spending the private one. In the period 2021-2030, the European Commission will mobilize at least *€ 1 trillion in sustainable investment by increasing resources for climate action* under the EU budget and by using additional public and private funding. Part of the global resources will be specifically designed to support the regions most exposed to the challenges of the transition. Moreover, in the context of these challenges, financial innovations will have new valences, including in the field of financial technologies.

Research methodology

The methodology of the paper has as direct tools the collection of data and information from the specialized literature and from the existing global practice in public and private higher education institutions, but especially the scientific articles published on specialized research networks (Research Gate, Academia.edu, RePec), articles published in various journals, relevant books in the field of reference, legislation, analysis and studies, official documents of the various institutions for quality assurance of higher education institutions, other relevant sources. Moreover, in the methodology, we will analyze the documents using the comparative, analytical, descriptive method, without participatory and participatory observation and the use of a set of information sources, data collection in established databases.

The paper will also be based on annual reports, publications, consolidated statistics provided by the World Bank, World Economic Forum, European Commission, OECD, data that need to be processed in order to provide an overview and analysis of the most important changes that have place globally - considered representative for understanding the phenomena studied. To substantiate the model of education through digitization and internationalization, we have used observation and examination tools, research methods based on the basic principles of scientific research, and we have also created procedures based on factual analysis, following significant practical experience, and intense documentation in national and international literature.

Research results

The mobilization of financial resources worth 1 trillion euros over ten years is the component of the Investment Plan that has so far attracted the attention of the majority. According to official documents, about half of the amount would come directly from the EU budget, while other public and private sources would provide the rest, mainly through leverage. *The European Investment Bank (EIB)* should be a key partner in mobilizing additional funding, as it is expected to trigger investments of up to around € 250 billion (i.e. a quarter of the total) in line with the EU mandates under the plan. investment. Given that the EIB has announced its target of supporting € 1 trillion in climate action and investment in environmental sustainability over the next decade, it should be noted that the two targets only partially overlap. Therefore, it can be deduced that taken together, *the European Investment Plan for Green Transactions* and the EIB's target should have the potential to provide around € 1.75 trillion in climate-related finance. The overall level of investment for the European Green Plan Investment Plan requires further clarification on its time horizon, which covers the decade 2021-2030, in line with the fact that the current EU climate targets are for 2030. However, the next *Multiannual Financial Framework (MFF)* is intended to cover a period of seven years, from 2021 to 2027. Therefore, the European Commission has calculated the total amount on the assumption that the next MFF, scheduled to start in 2028, it will maintain at least

the same level of ambition as its predecessor for climate finance for the last three years of the decade.

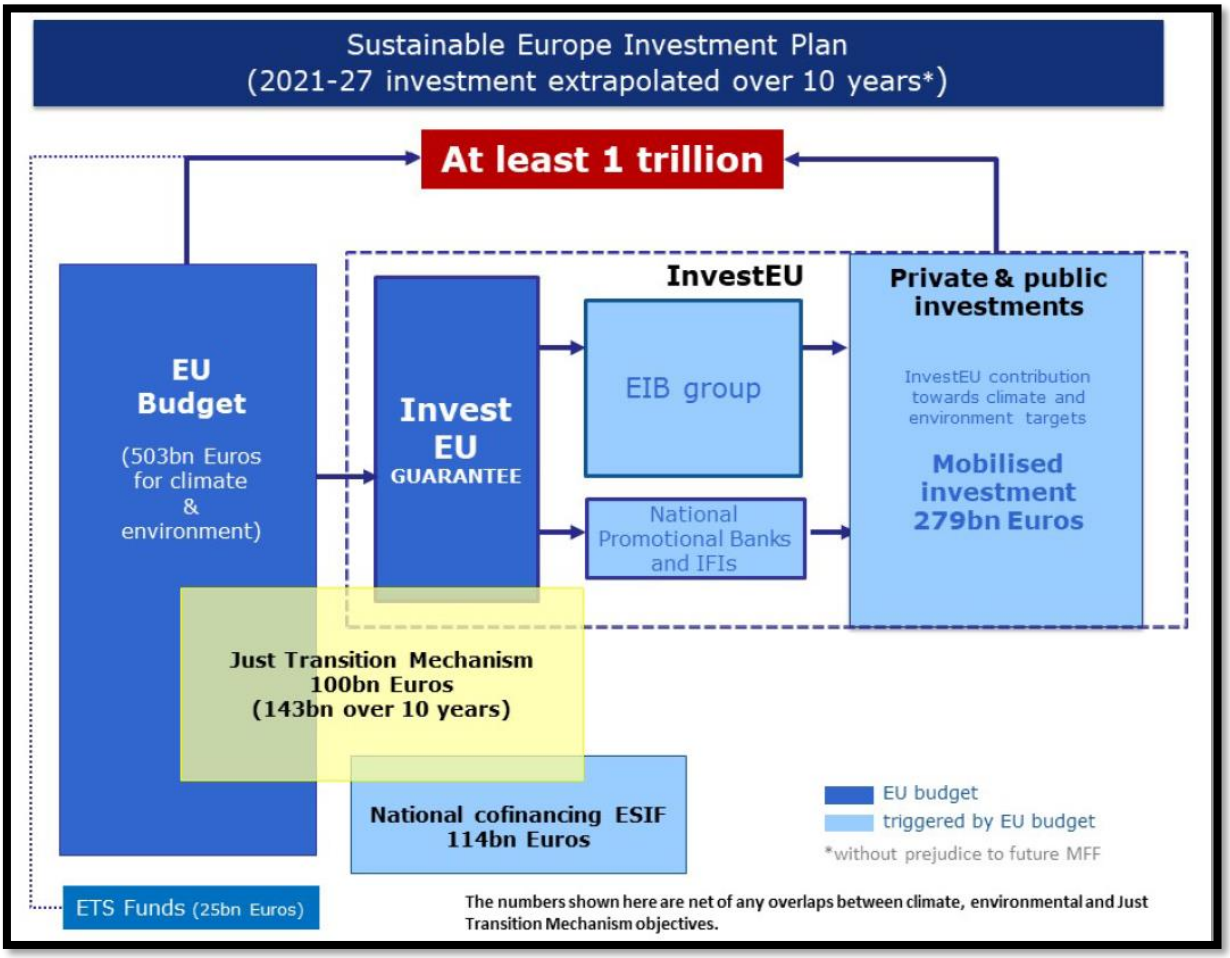

Sustainable Europe Investment Plan
(2021-27 investment extrapolated over 10 years*)
At least 1 trillion
EU Budget
(503bn Euros for climate & environment)
InvestEU
Invest EU GUARANTEE
EIB group
National Promotional Banks and IFIs
Private & public investments
InvestEU contribution towards climate and environment targets
Mobilised investment 279bn Euros
Just Transition Mechanism
100bn Euros
(143bn over 10 years)
National cofinancing ESIF
114bn Euros
EU budget
triggered by EU budget
*without prejudice to future MFF
ETS Funds (25bn Euros)
The numbers shown here are net of any overlaps between climate, environmental and Just Transition Mechanism objectives.

Figure 1. Funding elements amounting to at least EUR 1 trillion in the period 2021-2030 under the European Investment Plan for Green Transactions

Source: European Commission, 2020

The above figure shows the details of the total figure component of at least EUR 1 trillion. Furthermore, *the European Commission presents* this figure as clear of possible overlaps, taking into account the fact that different sources of funding and/or instruments may interact and contribute to a particular joint project or operation. In descending order of magnitude, five broad categories of climate finance sources would support a wide range of projects and contribute to the *European Green Plan Investment Plan*, as follows: EU budget (EUR 503 billion). The European Commission has proposed that at least 25% of post-2020 MFF resources be allocated to climate-related spending, by incorporating climate considerations into numerous *EU budget funds and programs*. Instruments that should make a significant contribution to this goal include *Common Agricultural Policy (CAP) funds; European Regional Development Fund (ERDF); Cohesion Fund; the Horizon Europe Framework Program for Research and Innovation; LIFE program; and the Connecting Europe Facility (CEF).* This approach is based on the experience with climate integration in the current MFF, below which the climate target amounts to 20% of total resources 2014-2020. EIB Group and other investment partners in the context of InvestEU (EUR 279 billion). The proposal for the MFF 2021-2027 includes the creation of the InvestEU program to streamline in a single investment scheme the operations currently carried out under the European Fund for Strategic Investments (EFSI) and various financial instruments supported by the EU budget. Furthermore, InvestEU would be the key tool to exploit the capacity of the EU budget to benefit from additional public and private funding for investments in the Union's internal policies, as well as its targeting of the dominant segment of business beneficiaries, namely SMEs.

The Commission has proposed a 30% climate target for InvestEU operations. The Commission intends to develop financial products aimed at ecological, climate, and social sustainability within InvestEU. CFM has a focus on the regions and communities most exposed to the challenges of transition, this mechanism would be structured on three pillars (see figure below): a fair transition fund, endowed with 7.5 billion euros new by 2027, and a specialized fair transition scheme within InvestEU; as well as a new public sector loan facility, with the EIB, to benefit from additional public funding. Particular attention is paid to territories with high employment in fossil fuel production or GHG-intensive industries. Under cohesion policy, EU Member States will identify eligible regions and the envisaged transition process by 2030, in the fair territorial transition, plans to be approved by the European Commission. Member States and regions will benefit from technical and advisory support from the Commission through a fair transition platform. As regards the overall financial system, the EU taxonomy will play a major role in the measures designed to put sustainable finance at its center. The Commission will also explore how the EU taxonomy, originally designed for the private sector, could be used by the public sector beyond the scope of *InvestEU* to promote synergies. In addition, a renewed strategy for sustainable financing is envisaged, including the creation of a *European Green Bond Standard* as a tool for increasing public and private finance for sustainable investment.

Figure 2. Just transition mechanism in the period 2021-2027

Source: European Commission, 2020

The European Commission supports sustainability, which is always duly taken into account when it comes to investment decisions, both in the public and private sectors. A mix of initiatives is envisaged to create the right conditions to achieve this goal, through legislative proposals and incentives.

As regards the overall financial system, the *EU taxonomy* will play a major role in the measures designed to put sustainable finance at its center. The Commission will adopt delegated acts for the implementation of this unified classification system, recently approved by the European Parliament

and the Council, which will help to determine activities that can be considered sustainable. The Commission will also explore how the EU taxonomy, originally designed for the private sector, could be used by the public sector beyond the scope of InvestEU (see above) to promote synergies. Also, a renewed strategy for sustainable financing is envisaged, including the creation of a *European Green Bond Standard* as a tool for increasing public and private finance for sustainable investment. In the field of state aid, the Commission intends to review the relevant rules by 2021 to reflect the objectives of the European Green Agreement and, in the meantime, to apply the current framework with more flexibility in areas that are crucial for decarbonisation efforts. Besides, the Commission will develop a "Sustainable Procurement Screening" tool to provide tailored support to public investors in implementing their projects.

In May 2018, the European Commission presented its proposal for the new MFF which should cover the period 2021-2027, calling for an agreement to be reached before the 2019 European elections to avoid delays in the implementation of related instruments. Among other things, the Commission has proposed raising the climate integration target from 20% of total resources to 25%. In the context of the *European Green Agreement*, climate integration in the EU budget should be further intensified, with proportionate resources to facilitate a fair transition to a carbon-neutral economy. The call for further change to the climate transition included a call for a new and strengthened methodology for climate integration, with strong performance indicators and provisions to prevent any financial support for climate-damaging measures.

The emergence of Covid-19, declared a pandemic by the *World Health Organization (WHO) in March 2020*, caused significant uncertainty, triggering the announcement of economic incentive packages to mitigate the social and economic impact of the public health crisis. An article published by the Peterson Institute for International Economics (PIIE) highlights the central role that public and private investment under the European Green Agreement must play in any recovery strategy.

Drawing attention to the falling price of oil, the author recommends that the EU and its Member States keep fossil fuel prices for consumers at pre-crisis levels, through higher taxes, as a crucial measure for their decarbonization efforts. The goal would be twofold: on the one hand, the public sector would have additional revenue to combat the pandemic and its consequences; on the other hand, the move would prevent the price of oil from falling. However, the Commission said it would continue its intensive work on climate issues. As previously planned, the Commission has launched a public consultation on the upward revision of the GHG reduction target for 2030, which aims to gradually increase the path to climate neutrality in 2050. Furthermore, the *European Environment Agency (EEA)* intends to assess the impact of the pandemic on production and consumption patterns once the crisis passes. The *Multiannual Financial Framework 2021-2027* is directly linked to the attitude of the Member States to be directly involved in the adoption of measures so that from 2021, small and medium-sized enterprises can use the financing instruments so necessary for their sustainability.

New tools that should be developed in the financial markets, in line with sustainable development, the development of the collaborative economy.

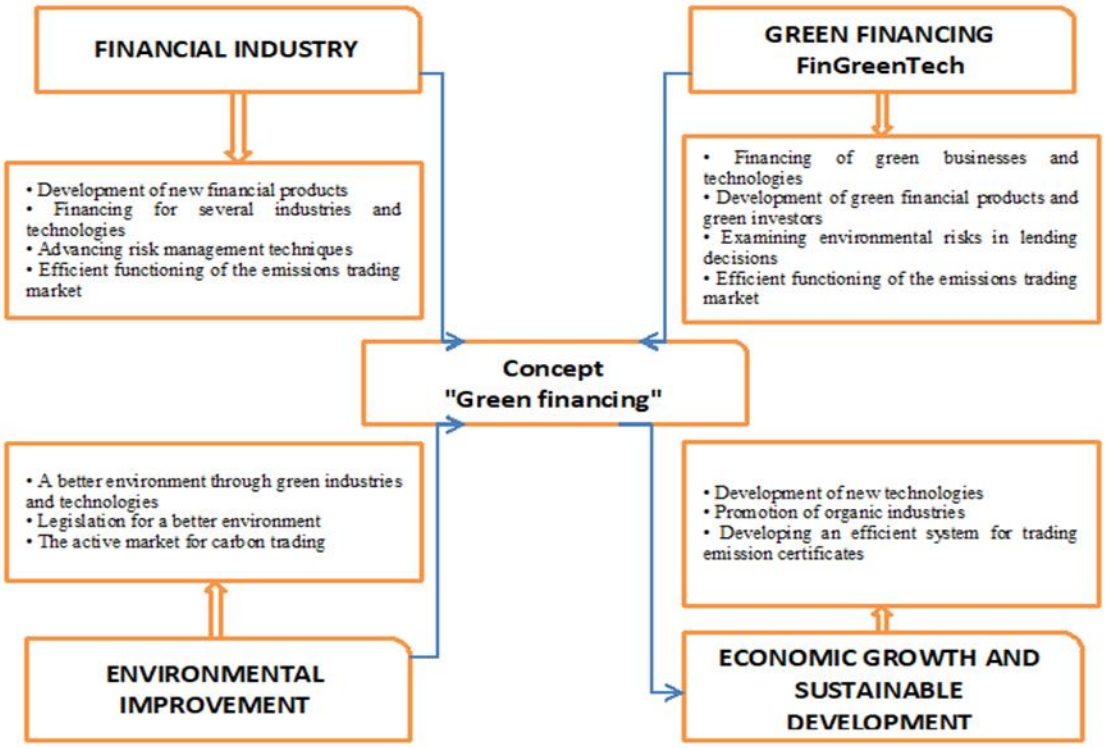
In our opinion, we believe that financial markets should develop techniques, methods, tools that are in line with the concrete conditions in which the global economy operates or will have to operate, especially in the current context of the *collaborative economy*.

Compared to the above and by the new green development policy, we propose the concept of green funding Fin GreeTech, a concept that we promoted in the research project in 2018.

"Green financing" concept FinGreenTech

Financial activities - which increase the financial industry, improve the environment and promote economic growth by carrying out activities with ecological impact.

Figure 3. "Green Financing" Concept FinGreenTech


FINANCIAL INDUSTRY
• Development of new financial products
• Financing for several industries and technologies
• Advancing risk management techniques
• Efficient functioning of the emissions trading market
GREEN FINANCING
FinGreenTech
• Financing of green businesses and technologies
• Development of green financial products and green investors
• Examining environmental risks in lending decisions
• Efficient functioning of the emissions trading market
Concept
"Green financing"
• A better environment through green industries and technologies
• Legislation for a better environment
• The active market for carbon trading
ENVIRONMENTAL IMPROVEMENT
• Development of new technologies
• Promotion of organic industries
• Developing an efficient system for trading emission certificates
ECONOMIC GROWTH AND SUSTAINABLE DEVELOPMENT

Source: own concept, coordinated research project "Current trends of the national financial market in the context of the global financial market, CCFM, 2018

Green economic growth means:

- a paradigm of economic growth that simultaneously seeks to grow and improve the environment;
- stimulating growth and job creation through research and development in the field of clean energy and green technologies;
- conservation and efficient use of energy and resources;
- mitigating climate change and environmental degradation.

Green technology

Green technology is the technology that supports ecological growth by conserving energy and resources in various social and economic activities, with a direct impact on improving the environment. This is the technology to reduce greenhouse gas emissions that minimize pollutant emissions with greenhouse gas emissions, energy efficiency technology, clean energy production technology, resource recycling, and green technology (including relevant convergence technology).

The need to develop the new concept of Green Financing - FinGreenTech

Green industries based on green technology are promising growth sectors, and under the Paris Agreement, governments are required to fully implement green financial policies. Moreover, economists have launched the new concept of "ecological transition" as a continuation of the concept of sustainability.

Following this project to identify financial market trends, a challenge in the field of scientific research is to achieve an economic model using the concept of FinGreenTech, and as research topics for the case of Romania, we mention the following:

- development of technical infrastructure, creation of the vector of "green" indices, development of the "Index of green companies" to promote green investments;
- creation of the "Carbon Risk Index";
- the creation of a funding mechanism and a system for providing information on green technologies;
- creating green financial education “packages” for the human resources involved in the green financing process;
- the development of new financial products that integrate environmental factors into existing products and that take environmental technologies and risks into account in lending decisions;
- the development of new financial instruments that combine banking, insurance, and banking investment features.

Conclusions and recommendations

Reducing the impact of the COVID-19 crisis on Romania, as well as in the Member States, required a rapid, focused and coordinated response from all Member States, including in the field of green financing. It is unanimously accepted in the literature that targeted state support is urgently needed to cope with the disruptive economic effects of the epidemic and the limitation of climate change. However, in our view, state support must be clearly defined and limited in terms of what is needed to address the acute economic crisis caused by the COVID-19 pandemic on the one hand, and the other. of climate change. Also, to turn state aid into an effective tool for supporting the real economy across the EU, it is mandatory to impose sufficient behavioral rules for beneficiaries to prevent the abuse of state support, such as, for example, the expansion of the company. or aggressive market strategies achieved with the help of a state guarantee.

In the current period, more and more companies, regardless of size, field of activity or market, feel the negative effects of the *global economic and financial crisis and make appreciable efforts to ensure the sustainability of their businesses*. The evolution of the economic environment has shown that the promotion of companies' strategies and objectives, as essential steps in ensuring sustainability, in increasingly obvious competitive conditions, is not possible without adequate information on the domestic and international economic and financial situation, without consideration and comparative analysis of different techniques and scenarios possible to follow. In the current economic and social context, excessively complex and dynamic, which decisively influences the good functioning of companies, the research carried out brings into discussion one of their most pressing problems, namely the exogenous financing of their businesses. Following the research undertaken, the main conclusions and proposals are summarized as follows:

a. the stage of development and the complexity of the financial structure at European level (*European Green Agreement, respectively the Multiannual Financial Framework*) decisively influence the action variables of financial management, the terms of their specific problems, as well as the nature of the solutions offered;

b. each type of financial environment delimits the space targeted by the financial management of the company, determining its objectives, issues and means of action. Moreover, as can be seen from the analysis at European level, each financing measure (including in *The New Green Deal)* is taken according to the political objectives set by that state;

c) capital, to be able to “orient” the financing policy towards the cheapest sources of capital (state intervention by issuing state guarantees, including promoting the launch of green bonds), which should contribute to maximizing the company’s market value; and to satisfy as much as possible the interests of the parties involved in its activity; In adopting financing decisions for companies at government level through financing programs with state financial instruments (guarantees, loans, bonds, etc.), companies must have rigorous criteria that allow them to choose and combine these resources, and the cost of financing is the main criterion in choosing the financing resources; for Romanian companies, even in conditions of economic crisis, exogenous financing through bank loans is the main solution to cover the need for financing both the current activity and their development projects;

e. In order to improve the financing of companies through bank products specific to *FinGreenTech lending / microfinance / financing*, a number of measures are proposed, such as: eliminating the formal nature of preliminary discussions and advising company representatives on the specifics of lending, including for the correct and complete preparation of the necessary documentation; reducing the time of verification and analysis of the documents requested by the bank, and in case of non-acceptance of the credit application to be presented the reasons and indicators that led to this decision, respectively the digitization of these verification / evaluation services; companies to be provided with the necessary conditions to be able to effectively negotiate credit conditions with banks (credit volume, credit period, interest rate, grace period, etc.); the repayment schedule should be drawn up according to the cash flow made by the company, and the monthly repayment term should be not a fixed date, but a repayment period (for example between 25-30 of the month); the size of the guarantees should be determined according to the activity carried out and the nature of the loan (for example, in the case of investments in property, plant and equipment, guarantees may consist, on the one hand, of existing assets acquired); adapting the size and evolution of interest rates and commissions to the level and real trend of the market; An example of measures that directly contribute to improving the financing of companies has been taken by the Member State of Ireland;

f. following the analysis of the situation and dynamics of transactions at European level, we believe that in the period 2020-2030 companies will have improved funding through government intervention, but especially through innovative financial instruments (mediating the innovative financing concept *FinGreeTech*) which is in line with the principles of green financing and which are found in the *Multiannual Financial Framework 2021-2027*.

The conclusion that emerges from the analysis of interventions through financial instruments in the economies of European states, the decisions of the European Commission on the Temporary Framework and the Multiannual Financial Framework 2021-2027, as well as the concrete measures taken by Member States, we consider that in addition to decisions by the Romanian authorities so far and to be continued (possibly supplemented, especially the guarantees for SMEs as other states have done), the package of measures could be supplemented with the following proposal, respectively: for the business environment the establishment of a government and business units Green Financing ”(following the measures taken by the European Commission, the creation at national level of The New Green National Deal) in collaboration with relevant business organizations and labor market organizations to address sectoral economic hardship. Among the main objectives should be the MicroFinance Fund with a potential loan threshold of € 50,000 and intended to finance small family businesses, especially in areas with special conditions (such as mountain areas).

FinGreenTech financial innovations are real tools to support the economic environment, especially in the current context of the new real economy model that is emerging, namely the collaborative economy model, and in the context of the European Green Agreement (2020-2050).

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COMPANIES VULNERABILITIES IN THE CONTEXT OF COVID 19 CRISIS. ANALISYS AND POLICY RESPONSES

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Abstract:

In this paper we refer to the main obstacles that Romanian companies have faced lately, especially the risk of liquidity shortages, and discuss the steps that the government can take to reduce these risks and to relaunch the activity of the Romanian business environment. In this respect, we will analyse the current situation of the business environment in Romania, the economic measures adopted in several EU member states regarding the activity of companies, respectively measures proposed to support companies in Romania, using the most recent reports / documents and databases of the specialized bodies (National Bank of Romania, Institute of Statistics, OECD, Keysfin)

***Keywords**: firms, economic measures, liquidity shortages*

JEL Classification: G 33, G 38, H32

Introduction

As the economy evolved in the first two months of the year, Romania seemed to register in 2020 the 10th year of economic growth after the global financial crisis of 2008-2009. But here are unexpected events that sent us back in time, at least from the perspective of economic growth, to the situation in 2009, when Romania recorded a decrease in real GDP of 5.5%.

For this year, analysts estimate a decrease in real GDP of about 5%, after an increase of 4.1% last year. It is the lowest level since the crisis in 2008-2009, caused by the sharp decline in global demand, but also by the significant reduction in the supply of products and services due to the closure of economic activity.

In Romania, the restrictions imposed in the state of emergency have strongly affected private consumption and the services sector, especially hospitality, tourism, air and passenger transport. Therefore, the authorities intervened through the Support Package, which is among the lowest in the EU, at about 3% of GDP, due to the limited fiscal space, compared to the Czech Republic, which allocated 20% of GDP, Hungary 18%, Poland 16% or Bulgaria 12%.

Most Romanian companies, being small and medium, are strongly affected by the decrease in demand for products and services globally and locally; large local companies or part of multinational groups will also suffer and will most likely postpone or cancel their planned investments.

The faster or slower recovery of the Romanian economy depends both on external factors, on how quickly Romania's trading partners recover, but also on internal factors such as measures to reduce the budget deficit, support measures for the business environment, in the long run in short, where there is the greatest need, but also for the medium and long-term vision of the government for a sustainable development of the economy.

In this paper we refer to companies, in general, the objective being the analysis of the measures proposed by other states regarding companies and possible solutions for relaunching the business environment in Romania. In this sense, we will address the current situation of the Romanian

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business environment, the economic measures adopted in several EU member states on the activity of companies, respectively measures proposed to support companies in Romania.

The current situation of the business environment in Romania

The number of insolvencies, suspensions, dissolutions and deregistrations of companies remains in the first 7 months of 2020 lower than that recorded in the same period in 2019.

In the first 7 months of this year, 60,634 companies were established, 31% less than in the same period in 2019, but the decline moderated from minus 47% and 29,780 newly established companies in the first 4 months of 2020.

Even if the effects of the pandemic are still being felt, the latest data show that the economy is starting to recover, and entrepreneurs and investors are always paying attention to what works and generate revenue and profit, as evidenced by their rapid focus on the energy sector and transport and storage, in the context of increasing online orders. Decreases of over 50% in the number of new companies are noticeable in agriculture, culture & entertainment and manufacturing (62.6%, 60.7% and 52.4%, respectively).

From a geographical point of view, most companies were established in Bucharest (9,810 companies, 7.5% less than in the first 7 months of 2019), Cluj (3,116 companies, 23% less than in the same period in 2019) and Ilfov (2,878 companies, respectively with 5% fewer registrations than in the first months of 2019 and also the smallest percentage decrease in the county). On the other hand, Argeș, Dâmbovița and Gorj registered the largest percentage decreases, between 45% and 48%.

The number of suspended companies decreased by 30% in the first 7 months of 2020 compared to the same period in 2019, to 6,177 companies. Also, the number of companies that went into insolvency also decreased by 15% in January-July 2020, compared to the same period in 2019, to 3,179 companies.

Deletions and dissolutions decreased by more than half, respectively by 53% in the first 7 months of 2020 compared to the same period in 2019, to 42,802, and the number of active entities (PFA and legal entities) increased this year by 4%, to 1,398,611 as of July 31, 2020.

Regarding trade and construction, two of the engines of the Romanian economy, according to the Ministry of Finance, approximately 222 thousand companies (30% of the total) that reported their results in 2018 had as main field of activity one of the CANE codes related to trade (retail and wholesale) and had a cumulative turnover of 597 billion lei (39% of the total). Also, approximately 75 thousand companies (10% of the total) that reported their results in 2018 had as main field of activity one of the CANE codes related to the construction sector and recorded a turnover of 84 billion lei (5% of the total).

Economic measures to support the activity of companies in some EU Member States

There are two stages of the crisis caused by the Covid virus 19 in which both the authorities and the companies take measures in order to survive / maintain economic activity, as well as post-crisis measures. We refer to the stages of shock and recovery. The pace of recovery of the world's economies will depend on the policies that governments and companies have taken and will continue to take in each of the two stages of the current crisis.

We are still in the phase where maintaining as many jobs as possible and production and commercial chains are essential. Now, all government policies are about liquidity and solvency, for individuals and companies. Thus, fiscal and monetary stimulus packages have been adopted by almost all governments in the world in an attempt to limit the negative impact of this lockdown: technical unemployment, postponement of tax payments, suspension / postponement of credit installments or their maturity.

Therefore, the analysis of the measures taken by different states indicates which are the best practices globally. However, the intensity and, implicitly, the effect of these measures, depend on the specifics of each economy; developed countries have the capacity to "flood" economies with money to mitigate the implications of the crisis; but emerging economies (such as Romania) have fewer opportunities to provide liquidity, and dependence on global investors will increase.

To ease liquidity constraints, many countries have introduced measures to defer taxes, social security payments, debt payments and rent and utility payments. The provision of loan guarantees has also been introduced, extended or simplified to allow commercial banks to extend lending to SMEs; in some cases, countries have stepped up direct lending to SMEs through public institutions; grants and aids are provided to SMEs and other companies to cover declining incomes.

There are countries implementing structural policies to help SMEs adopt new (digital) working methods and technologies and find new markets and sales channels to continue operations under existing containment measures. These policies aim to address short-term challenges, such as the introduction of teleworking, but also help to strengthen the resilience of SMEs in a more structural way and support their further growth.

The following table shows that the most used instruments in response to the crisis are deferrals on income and profit tax, guaranteed loans, direct loans to SMEs and wage subsidies. Structural policies have been used sporadically, with a focus on teleworking and digitalisation, although in time the number of countries establishing such policies has increased.

Table 1

Implemented measures by some states in UE and OECD in order to cope with the Covid 19 crisis

State	Work			Defferals					Financial instruments			Structural politics			
	Temporary layoffs	Wage incentives	Freelancers	Tax on income/ profit	VAT	Social contributions	Rent/ utilities	Debt	Guaranteed credits	SMEs direct lendinig	Grants and aids	New markets	Teleworking/ digitalization	Innovation	Training and employment
Austria	X	X		X				X	X	X	X				
Belgia	X	X	X	X	X	X	X	X	X		X	X			
Cehia		X		X				X	X	X	X	X		X	
Danemarca		X	X	X	X			X	X		X				
Franta	X	X	X	X		X	X	X	X	X	X	X	X	X	
Germania	X	X	X	X					X	X	X			X	
Grecia		X		X	X	X			X	X			X		
Italia	X	X	X	X				X	X	X	X	X	X		
Letonia	X	X		X				X	X	X			X	X	
Lituania		X		X			X		X	X					
Portugalia	X	X		X	X	X			X	X		X			
Polonia		X	X	X		X			X	X				X	
Romania		X		X			X	X	X						
Slovenia		X	X	X			X	X	X	X		X	X		
Slovacia		X	X	X					X		X				
Spania		X	X	X		X	X	X	X	X	X		X		
Ungaria	X	X		X		X	X	X	X	X					
* UK		X	X	X			X	X	X	X	X				
SUA		X	X	X						X	X				
Rusia			X	X		X		X		X					
China		X		X		X	X	X		X	X		X	X	X

Source: OECD, 2020, SME Policy Responses

We observe, therefore, that European states provide significant sums to support companies in difficulty and, in addition, we see other measures aimed at minimizing the risk of an economic crisis (deferral of payment of taxes, non-collection of interest and late fees, temporary reductions of taxes, measures for the most affected sectors, technical unemployment).

Proposed measures to support companies in Romania

We believe that the main concern of companies is to adapt to the new context in which the world will be placed, after the initial phase of the coronavirus effect will be overcome; in the short term, it means survival; on long-term, rehabilitation.

It is well known that in the economy, there are severely affected industries and industries that are still experiencing business growth. At the level of sectors activity, we have sectors that are closed in proportion of over 80%, but there are sectors that are still active, but at low capacity, or sectors that are reinventing themselves to cope with the shock produced.

The most affected companies are those in the hospitality industry (hotels, restaurants, cafes), directly targeted by the restrictive measures taken by the authorities. In the category of severely affected companies are those of passenger transport (air, road), tour operators, real estate, fashion, retail (less products of strict necessity), event organizers, other services for the population. In addition, the automotive industry and some of its service sectors fell sharply amid declining consumption and the closure of production in China. Similarly, the household appliances sector is declining in the current period. To all these companies are added the service and goods suppliers of the above, which are indirectly affected by the explosion of market risk and non-collection.

On the other hand, among the less affected companies or those that record increases are: carriers of food and equipment and other goods used to prevent and combat COVID-19; companies in the production and distribution of pharmaceutical products; IT companies, in particular those that develop software or provide equipment and services; retail companies (especially online marketing) for food and basic necessities; courier companies.

Table 2

Measures taken by Romanian companies in the shock phase

Firm type / Type of measures	Companies strongly affected by the measures of the authorities	Companies indirectly affected	Companies with growing business or similar to the period January-February 2020
Operational measures	-availables / technical unemployment -renegotiation of leases and other contracts with various suppliers / postponement of rent payments -reorientation towards other types of activities -implementation of teleworking (where possible)	-implementation of teleworking (where possible) -reduction of employees' salaries -technical unemployment - renegotiation of leases and other contracts with suppliers	-implementation of telework (where possible) - reduction of purchases or expenses that are not strictly necessary in the next period (3-6 months) -focus on increasing the capacity to purchase goods and delivery (especially for online retailer and courier companies) - focus on increasing local production capacity (production of food and goods needed to combat and prevent Covid 19) - focus on increasing the capacity to provide services, in the case of companies providing services critical to the continuity of services

Financial measures	-"freezing" payments to suppliers in some cases -contracting credit lines / other types of loans / financing from group companies or banking companies	-contracting credit lines / other types of loans / financing from group companies or banking companies	-supplementing current credit lines to increase purchases / production.
Fiscal measures	-deferment of tax payments - requesting to benefit from fiscal measures for the reimbursement of VAT and other taxes due to the state budget, of the compensation for technical unemployment	partially, postponement of taxes and dues payments - requesting to benefit from fiscal measures for the reimbursement of VAT and other taxes due to the state budget, of the indemnity for technical unemployment	- requesting to benefit from fiscal measures for the reimbursement of VAT and other taxes due to the state budget

Source: Andrei, A., Tax & Transfer Pricing Partner al Cabot Transfer Pricing, What measures have taken the companies affected by the COVID-19 crisis?, https://doingbusiness.ro/articol/ce-masuri-au-luat-companiile-afectate-de-criza-covid-19-dar-de-cele-care-nu-sunt-afectate-deocamdata-5098

The main measures needed to overcome this crisis situation concern:

- a state aid program to support subsidies of up to 75% for the payment of salaries in areas affected by the crisis and the full and direct payment of sick leave allowance for coronavirus or quarantined employees (without payment from the employer and subsequently to recover the money from the Health House).

- With regard to proposals on tax, social, labor or law issues, it is necessary to apply support measures for SMEs to all categories of employers / employees: NGOs, sheltered units, social enterprises.

- Regarding modern public policies, it is necessary to develop the necessary clarifications on telework, work at home, work with flexible / staggered / temporary schedule. An example of this is the "Kurzarbeit" system in Germany, through which, in crisis situations, the employer agrees with the employees on the reduction of the work schedule and, proportionally, of the salary, and the Government takes over the difference.

- **fiscal credit**. Not all companies are in difficulty paying taxes and related taxes; the tax credit must be granted according to the size of the companies (inversely proportional). In a polarized business environment, in which the first 5,000 companies (the largest in terms of turnover, representing 1% of all companies active in Romania) concentrate almost 70% of consolidated revenues in the business environment, we need of measures to redistribute money to vulnerable companies.

- **trade credit** is the main element for financing working capital, which cannot be consistently postponed because it generates chain arrears and increases the risk of contagion. Companies that have temporarily reduced / ceased their activity, due to measures to prevent the spread of coronavirus, are unable to pay the commercial debts that have now matured.

- **bank credit and leasing**. Given the uncertainty about the future evolution of the coronavirus phenomenon, companies that are already adversely affected by declining turnover need stability in terms of bank financing.

We consider that the direct intervention of the state with liquidity and financial support is essential, by implementing an extensive scheme of government guarantees for financing / refinancing / rescheduling companies / individuals in difficulty by banks in more favorable conditions of costs and grace periods. Authorities should also grant facilities for the payment of taxes and fees in the most affected sectors, but not in all sectors. With regard to the behavior of non-payment in the economy, in general, and non-payment of taxes and dues in particular, it should not be encouraged, as the companies that have been affected tend not to comply with taxes.

We must mention that a factor that positively influenced the activity of companies was the SME Invest program. Thus, employees did not lose their jobs, companies paid taxes and duties, continued to operate and support the Romanian economy.

The main obstacles faced by companies

The coronavirus pandemic significantly affected the Romanian business environment, one and so fragile, with over 90% of poorly capitalized companies, many of them in the survival zone, without medium and long term financial resources.

At national level, the situation of companies has worsened compared to the previous year, among the (external) influencing factors being the economic situation at national level, the situation of the sector they belong to and the economic and financial situation of their company. However, the development prospects, the relationship with business partners (suppliers or customers) or the relationship with the financial institutions they work with have remained largely unchanged.

The problems that companies have felt are the most pressing in recent times (according to the NBR, June 2020, Financial Stability Report) are production or labor costs, the availability of well-trained labor and lack of demand. The main sources of financing used by companies remained the domestic ones, which became more important during this period than external resources, mainly due to the substantial advance recorded by the reinvestment of profits and the sale of assets. Bank loans remain a much less used option, and the number of companies opting for commercial loans and bank overdrafts continued to decrease in the analyzed period.

Also, large corporations are more pessimistic, compared to SMEs, in terms of the national economic situation, the business sector and their own company, but are less affected by factors such as the company's development prospects and the relationship with business partners or financial institutions they work with.

Depending on the field of activity, the most affected by the worsening of the factors influencing the activity are industry and the services and utilities sectors, while at the opposite pole are sectors such as construction and real estate or agriculture.

Regarding the internal obstacles, the decrease of sales largely affected the activity of the companies, followed by the non-collection or closure of the activity, due to the shutdown of the pandemic. The Covd crisis has hit hard in the economic chains in almost all areas of activity. Given the weak capitalization of the economy, many of the firms were and are engaged in trade credit / supplier credit mechanisms, and the sharp decline in consumption of goods and services in 2020 has significantly affected relations between companies. The financial blockage has intensified and many companies have entered into major financial difficulties. Therefore, the facilities granted by the authorities saved many of these companies.

At the same time, this fact led entrepreneurs to readjust to the newly created situation (According to the Sierra Quadrant barometer), by restructuring businesses, reducing supplier credit, reducing operating costs, staff reductions and digitizing companies' activities.

One of the facilities granted by the Government to the companies consisted in requesting the Emergency Situation Certificates (CSU). By September 15 (the deadline for requesting certificates) more than 60.000 Emergency Certificates were requested, the applicants generating almost a fifth of the turnover obtained nationally in 2019.

Thus, at least a fifth of the revenues generated by Romanian companies (319 billion lei obtained in 2019) was strongly affected by the macroeconomic situation in 2020 and there is a risk of significant decreases.

In addition to companies directly affected by the state of emergency, whose revenues have fallen directly, the entire business environment has had and continues to suffer.

The more than 60.000 companies that applied for CSU paid their debts in 2019 more than 50 days faster than the companies that did not apply for a certificate, and, at the same time, recovered their debts by about 26 days rapidly. This indicates that the measures taken during the emergency and alert period affected the entities with a more correct payment behavior and less on the rest.

In terms of solvency, companies that have applied for an Emergency Certificate have a solvency that is more than 0.9 points lower than those that have not applied for this document. Thus, an applicant for C.S.U. had at the end of 2019 a solvency of 1.44, while a company that did not request a certificate (ie was less or not affected at all) had, at the end of 2019, a solvency of over 2.3.

The lower the solvency, the closer the insolvency. However, the values recorded at the end of 2019 are high, even in the case of those who requested the CSU there are all the prerequisites to be able to overcome the current crisis in good conditions.

Conclusions

The negative effects of the pandemic are strongly felt at the level of Romanian companies. In such times, reaction time is essential, and one of the most convenient levers is the tax facility. Support measures are needed to avoid the blockage or bankruptcy of healthy sectors or companies; in this regard there are two types of requests: the state to intervene directly with liquidity and financial support, respectively to postpone the payment of tax obligations.

Among the effects of the crisis generated by the Covid 19 pandemic on the business environment are the reduction of both demand and supply of goods and services, drastic decrease in sales volume, reduction of the employment rate / increase of unemployment, reduction of private investments, blockages in supply chains.

In this context, states around the world have intervened with concrete measures to help companies and guide them through a prompt action plan. The measures taken by Romania seem to be similar to those taken at the level of other member states of the European Union. We note that European states offer significant sums to support companies in difficulty and, in addition, we see other measures aimed at minimizing the risk of an economic crisis (postponement of taxes and fees, non-collection of interest and late fees, temporary reductions of taxes, measures for the most affected sectors, technical unemployment).

The pace of recovery of the world's economies will depend on the policies that governments and companies have taken and will continue to take in each of the two stages of the crisis generated by the COVID-19 pandemic (shock and recovery). We are still in the first phase of this situation, in which maintaining as many jobs and production and commercial chains as possible are essential, when the purpose of economic measures concerns the liquidity and solvency of companies and individuals.

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INFLUENCE FACTORS OF CIRCULAR BUSINESS MODELS

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Abstract:

This article examines the factors that influence economic units in their transition to the circular economy. From the multitude of structural factors, we chose for analysis the influences produced by the resource portfolios and the capacities of the economic units, as well as the business networks.
The transition to the circular economy is changing the way companies set up their resource portfolios due to new trends and requirements.
When the recalibration of resource portfolios is done for the introduction of the circular model, as well as in the case of business networks that have made the transition to the circular economy, organizational barriers appear.

Keywords: *circular economy*, *factors of influence, sustainable development*

JEL Classification: *O11, O44*

Introduction

The paradigm of the circular economy offers economic, environmental and social benefits. The relevant economic aspects of the circular economy option depend on a wide variety of conditions related to the value chain, the number and type of legislation, etc. Most cases have the potential for a circular alternative, but the costs and benefits vary depending on the nature of each case. More important than providing unique values for different markets is the ability to understand trends to identify potential future developments. In terms of environmental benefits, the transition to circularity would help to avoid emissions, reduce resource losses and ease global systems. For example, it has been estimated that the accelerated transition to the circular economy in the services, food and built environment sectors could lead to a 48% reduction in emissions by 2030 and an 83% reduction by 2050 from 2012 levels. Looking beyond environmental sustainability, the economic benefits and economic relevance of the circular economy are also increasingly recognized among policy makers.

The potential savings in material costs in a circular economy in complex life-sustaining products sectors (especially for cars, machinery and equipment, as well as for electric cars) at EU level are estimated to reach 630 billion euros. dollars per year, while in the consumer goods sector (mainly food, clothing and packaged beverages), net material savings worldwide could exceed $ 700 billion annually. Moreover, the technological and organizational innovations underlying a circular economy would increase the productivity of European resources by 3% by 2030, the equivalent of 1.8 trillion in total benefits in three areas: mobility, food and the environment.

Beyond cost savings, closing production and waste loops as well as increasing the reuse and recycling of materials have been reduced and improved and can help reduce price volatility in commodity markets and supply risks. Moreover, it has been found that the absorption of circular business models is associated with a high employment potential.

Although these findings show clear benefits for companies that adopt circular business models, in practice there can be many structural influences such as differences in resources and capacities of economic units, networks that can block firms in unproductive relationships and change control through rights. specific contracts.

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Description of the Problem

Some economic units find it difficult to adapt to the requirements of the circular economy, they face difficulties in reconfiguring resource portfolios because new investments are limited by their existing capacities. For changes such as the implementation of a circular business model, it is necessary to build and complete the resource portfolio of economic units, which will give them a sustainable advantage. The management of economic units must constantly evaluate, measure and reconfigure the resource portfolio in response to market needs, social change and technological progress. A company can reconfigure its resource portfolio by adding, combining or replacing them with new ones. Uncertainty, high costs and rigidities related to new investments due to the implementation of higher requirements, stimulate investment in resources within a company. Due to the magnitude of change, manufacturers often have to rely on the capabilities and resources of their partners to manage and overcome the challenges of profitability. The whole circular system can be in trouble if one partner in a collaboration does not work properly. The risk is very high for business models that focus on:

(1) resource recovery through industrial symbiosis and closed-loop recycling, whereby waste materials are reprocessed into new resources;

(2) prolonging the life of the product by redesign and reuse. For a circular business model, several new types of resources and capabilities are needed that focus on collecting or supplying unrecovered materials / resources, in order to turn them into new forms of value or goods with extended life. The difficulty of this model is to predict profitability flows, to collect information about the location and status of product returns and its life cycle.

Methodology and Data

The methodology used in this research largely includes data from the EEA (2016). Report No 2. Circular economy in Europe, developing the knowledge base. European Commission. (2010). Making sustainable consumption and production a reality. A guide for business and policy makers to life cycle thinking and assessment (Vol. 32).

Results

Precise information on the quantity and quality of the product life cycle status or on profitability is needed to manage profitability flows, especially when profitability rates are high or when life cycle contracts include the value proposition. To ensure a high rate of return, it is important to determine how products should be collected and by whom, as well as where collection points should be located to ensure customer coverage. Manufacturers often rely on collaborators and use third-party collection companies, sometimes sharing responsibility with them, thus emphasizing the importance of high profitability flows. After the collection of used products, recovery may involve the resale of products, repair or recycling through a series of processes, such as collection, inspection, separation, etc. Investments in financial, human and physical resources must be aligned with the information technology used in the reverse logistics process to improve partner communications, integrate information into the activities of the business unit and receive this information. In circular business models in which the ownership of the product is kept, customers access the product only at the time of purchase. This type of product-service offer consists in the use of the product or the primary result of the product. Customers could close physical products. The adoption of such models increases the importance of complementary services and resources to extend the life of products.

When post-service activities are outsourced, manufacturers and service providers must pursue the same objectives. After-sales services are also important in situations where products are disassembled and usable items are cleaned, repaired and inventoried, making recovered parts an alternative to new parts. In order to perform warranty services on the basis of a properly drawn up contract, manufacturers may hire independent service agents. This creates the possibility for employees to develop resources and, therefore, to participate in co-creating value. After-sales services include installation, warranties, extended warranties, maintenance contracts, replacement parts, training programs, and product upgrades. Businesses that make investments to implement a

circular model must consider the resource requirements that relate to after-sales services that ensure customer satisfaction and the creation of long-term relationships that involve regular payments. For economic units, the need for investment and adjustment to achieve the closed material loop varies depending on the nature of their activity. Manufacturers may need to make substantial changes to products and manufacturing processes to meet the requirements of circular business models, while recycling firms already meet these requirements without the need for further changes. For large manufacturing units, the implementation of the circular business model requires significant changes and costs to redesign the product, increase its lifespan, and add recycling functionality, as measures to gain an improved reputation and increase revenue. These transformations are based on the whole system of innovations, so they can only be achieved in combination with other complementary innovations.

Networks can also block firms in unproductive relationships or hinder partnerships with other viable firms. Thus, it can be difficult for an economic unit to move from a linear business model to a circular business model if the employees in its value chain do not want to make the necessary investments and adjustments. Therefore, substantial costs could be involved in changing business models. The creation of a circular business model can lead to the rupture of previous relationships, by forcing businesses to improve their material selection and change their current supply of inputs to non-toxic, pure raw materials. Manufacturers' decisions on product design and material selection influence the choice of network partners, and biodegradable and recyclable materials that can be separated for reuse are prioritized to close the material loop.

Conclusions

In conclusion, the way in which new types of investments in resources and capacities are developed can lead to sustainable competitive advantages, despite their rigidity and the uncertainty involved in the transition to the circular economy.

The producing economic units that implement the circular model must set up reverse logistics networks, which is to their advantage, as they outsource high-tech repair operations, warranty parts recovery, transportation services for the product recall program, etc. Such operations can lead to collaborations with economic units, complex networks, technologies and capabilities to operate efficiently in logistics systems. Therefore, producers do not have to develop expertise in these areas, instead, they can rely on experts who specialize in these activities and can enjoy the benefits of having contractual relationships with several producers. This outsourcing contributes to the development of the networks in which the dependencies are built between the economic units, the resources and the capacities that they have. Mutual dependence and investment specific to the relationships made by economic units within the network encourage trust, reciprocity and exchange of information within it, while knowledge development, trust and information sharing will reduce the costs associated with contracts within economic units.

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ADDRESSING THE EFFICIENCY OF PUBLIC PROCUREMENT IN TERMS OF THE SUSTAINABILITY DIMENSION

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Abstract:

The author presents the public procurement system that must take place in conditions of environmental sustainability and socio-economic development. To carry out the study, the author applied traditional research methods: monographic method, document analysis, comparison, trend analysis, etc. The conclusions resulting from the analysis of documents and case studies confirm the hypothesis that public procurement is an important lever in achieving sustainable development strategies and policies. As a result, some methodological aspects are proposed that would contribute to the creation of a sustainable system of public procurement based on the principles of their regulation applied in EU countries but also in the Republic of Moldova.

Keywords: *sustainable procurement, sustainable public procurement, efficiency, sustainability*

JEL classification: *H6, Q01.*

Introduction

Improving public procurement practices has become one of the key priorities of public authority management. The reasons for the improvement result from the reorientation of public policies to reduce budget expenditures and reduce their fraud, thus ensuring the acquisition of quality goods, works and services, in conditions of limited available financial resources. At the same time, changes in the typology of public procurement have led to a significant change, namely the emergence of a new approach to sustainable procurement whose contribution leads to solving problems of social, economic and environmental development for domestic and international companies. Based on the data provided by the Public Procurement Agency, the legislation of the Republic of Moldova on public procurement, World Bank data, information from the EBRD and other sources, the author presents arguments supported by analytical materials on the need to approach and develop sustainable public procurement.

Description of the Problem

An ecological economy is needed to gain economic sustainability. This type of economy must create renewable resources if necessary, use non-renewable resources when renewable ones dwindle and monitor the level of emissions with a negative impact on the environment [3]. Economic sustainability is fully linked to the results regarding the protection of the environment and in the social field, which the company obtains. Ultimately, economic sustainability depends on the ability of natural ecosystems to obtain and store sufficient amounts of energy to support human life on Earth. In the case of entities, sustainability means managing the organization in such a way that it is able to provide future generations with strong social and environmental programs [4]. In a broad sense, sustainable development involves the application of the principles of sustainability to the company's operations. In the case of the company's operations, sustainability requires the use of resources so that the company continues to operate for a number of years, under the conditions of ensuring profit. Sustainability encourages the responsible use of resources. This implies not only that the entities ensure that they make a profit, but also that the operation does not create environmental concerns that could harm the balance of the environment.

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Methodology and Data

The methodology used in this research largely includes data from the Growth Limits Report from Rome in 1972, ideas from the Report of the World Commission on Environment and Development (1987), ideas and proposals from the Environmental Program Sustainable Development based on public procurement based on the definition of the World Commission on Environment and Development (WCED), discussion paper prepared by Rita Roos on behalf of the United Nations, the Center for Procurement Capacity Development and the United Nations, recommendations of the Program "Promoting" green "economic development in Eastern Partnership countries (EaP GREEN) launched in Moldova, and others.

Results

A sustainable economy has been talked about for decades. A crucial moment in this field was the publication of the Report "Limits of growth" by the Club of Rome in 1972. In recent years, discussions on sustainable development have become one among the priorities of the global agenda. This is due to scientific research, trends in developing countries and practical experience related to environmental degradation and the effects of climate change that clearly show the need to change economic development patterns. Sustainability is the only successful strategy for future business. Awareness of the sustainability of companies and businesses has increased in the last twenty years. Traditionally, companies focus on providing goods and services that meet customer requirements and can be traded at competitive but profitable prices. In a world where there are resource constraints, where ecosystems are degrading, climate change is influenced by human activities and where economic growth has failed to include all the world's citizens so far, the traditional role of the company is no longer enough to generate sustainable development. The report of the World Commission on Environment and Development (1987) [6], known as the Brutland Commission, considers sustainable development as "a mode of development that meets the needs of the current generation without compromising the ability of future generations to meet their own" . The Federal Ministry for the Environment, Nature Protection and Reactor Safety in Germany suggests that sustainability is a comprehensive development concept that “aims at what is likely to be ecologically, socially and economically possible” (Nachhaltige Entwicklung als Handlungsauftrag, May, 2012). The French approach to sustainability introduces the new term "social / social responsibility", together with that of sustainable development. Corporate social responsibility lies in its contribution to sustainable development efforts. To this end, companies need to consider the effects of their best practices on the environment and society, in order to contribute to the progress of society and the protection of the environment (Corporate Social Responsibilities, 15 February 2013). The publication "Entreprise pour l'Environement" (October 2005) considers that the term corporate responsibility has the advantage of being company-oriented, but does not include the dimension of development. [2]

An ecological economy is needed to gain economic sustainability. This type of economy must create renewable resources if necessary, use non-renewable resources when renewable ones dwindle and monitor the level of emissions with a negative impact on the environment [3]. Economic sustainability is fully linked to the results regarding the protection of the environment and in the social field, which the company obtains. Ultimately, economic sustainability depends on the ability of natural ecosystems to obtain and store sufficient amounts of energy to support human life on Earth. In the case of entities, sustainability means managing the organization in such a way that it is able to provide future generations with strong social and environmental programs [4]. In a broad sense, sustainable development involves the application of the principles of sustainability to the company's operations. In the case of the company's operations, sustainability requires the use of resources so that the company continues to operate for a number of years, under the conditions of ensuring profit. Sustainability encourages the responsible use of resources. This implies not only that the company ensures that it makes a profit, but also that the operation does not create environmental concerns that could harm the balance of the environment.

Given the concern about the impact of operations on the community, procurement participants can choose raw materials that are more environmentally friendly and design a waste disposal strategy that does not harm it. From a financial perspective, the three parts of sustainability can be considered as environmental capital, social capital and economic capital.

Sustainability is achieved only if the company succeeds in achieving economic efficiency, social equity and environmental preservation. Whatever the approach to its sustainability, the firm must adhere to the right principles that support its understanding, development and correct implementation as an integral part of its overall strategy [5]. Holism is the first principle to be respected, because it implies close and permanent relationships between the components of sustainability. The challenges of sustainability where relationships matter are ecological, social and economic, and ignoring holism has critical consequences on the functioning of sustainability as a system. The diversity of sustainability suggests the variety of elements or strategies and solutions that are different or not similar to each other.

The real challenge in drawing a long-term course is sustainability, which consists in balancing short- and long-term profitability, economic, social, ethical and moral goals - dimensions that are often not conventionally rewarded in economic systems. This perspective is characterized by the question: “How should entities, organizations, and last but not least, the state learn to innovate and advance in order to excel its management through activities and processes, so as to obtain its contribution to sustainable development? ".

According to a "Balanced Scorecard" study introduced by the British Kaplan and Norton in 1992, it is a management tool that supports the measurement of four perspectives of organizational performance: financial, customer, internal affairs, processes, learning and growth.

The SIGMA project is a traditional approach to stimulate the planning and decision-making process around sustainable development and sustainability. Balanced scores in this situation have two main functions:

 to measure performance from a number of perspectives (using a limited number of key performance indicators);

 to guide the development, communication and implementation of the strategy. Relevant issues include: innovation, lifelong learning, intellectual and human capital.

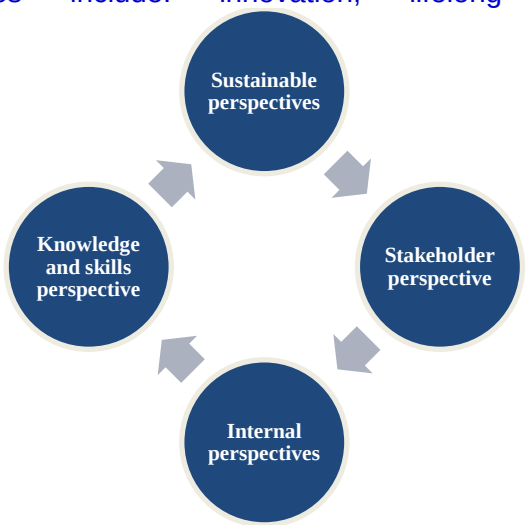

Fig. 1. SIGMA Sustainability Score - A strategic efficiency management tool.

Source: Developed by the author based on the source [4].

This study is based on the analysis of these strategic management tools of the state, namely:

Table 1.

Strategic efficiency management tools

Name	Role
Sustainability perspective	This perspective is characterized by the question: “How do we understand the success for this organization in terms of sustainable development and the goal of sustainability? What measures are social, economic and environmental performance relevant - in line with the values, vision and mission of the organization? ". Relevant issues in this case could include: environmental sustainability, human rights and economic performance. Therefore, this perspective will be influenced by the interpretation of the contribution of

	sustainable development of governments, organizations. A state or organization can use the SIGMA guiding principles to define the parameters and objectives for its own contribution.
External perspective of stakeholders.	This perspective is characterized by the question: "How should the state / organization engage and be accountable to stakeholders in order to achieve its contribution to sustainable development?" Relevant issues here could include: stakeholder responsibility and satisfaction. This perspective may cover some of the same issues as the sustainability perspective, as an example in which stakeholders see success in terms of a certain level of social performance, but it is differentiated in terms of differences in the organizational perspective of success from other national perspectives.
Internal perspective	This perspective is characterized by the question: “How should the organisation's management activities and processes work in order to satisfy stakeholders and achieve their contribution to sustainable development? Relevant issues could include: eco-efficiency, productivity and cost.
Perspectives of knowledge and skills	This perspective is characterized by the question: "How should the state / organization learn, innovate and improve in order to excel in its management through various activities and processes and obtain its contribution to sustainable development?". Relevant issues could include: innovation , lifelong learning, intellectual and human capital.

Source: Developed by the author based on the source [4]

These elements are of course interconnected. Knowledge and skills can help improve internal processes. Improved internal processes can improve customer service and increase satisfaction for a wide range of stakeholders and directly improve the financial baseline. Stakeholder satisfaction can improve financial performance, but will strongly relate to the social and environmental impact of the state. An improved financial framework can affect the organisation's ability to increase its impact on society beyond the direct impact of its products and services, employment practices and other activities.

Public authorities are major consumers in Europe, spending around 16% of the EU's gross domestic product (equivalent to half of Germany's GDP). By using their purchasing power to choose environmentally friendly goods and services, they can make a significant contribution to sustainable development. Green public procurement covers areas such as the purchase of energy-efficient computers and buildings, environmentally friendly wooden office equipment, recyclable paper, electric vehicles, environmentally friendly public transport, various environmentally friendly food for canteens, electricity from renewable energy sources, air conditioning systems compliant with the most advanced environmental protection solutions. Green procurement is also meant to set an example and influence the market. By promoting green procurement, public authorities can provide the industry with incentives for the development of green technologies. In some product, works and services sectors, the impact can be quite significant, as public purchasers control a large part of the market (in the field of computers, energy-efficient buildings, public transport, etc.). Finally, if the costs of a whole life cycle of a contract are taken into account, green public procurement makes it possible to save money and protect the environment at the same time. By purchasing wisely, you have the opportunity to save materials and energy, reduce waste and pollution, and you can encourage sustainable patterns of behavior.

At the same time, the role of sustainable procurement in the public procurement system becoming a common topic for the current situation, it is necessary to implement various strategies on sustainable public procurement in all countries of the world. At European level, the European Commission and many other governments as well as international organizations are increasingly focused on implementing strategies to use public procurement to achieve environmental or social justice goals, the effective institutionalization of sustainable public procurement. Sustainable procurement is based on "traditional" procurement principles and good practices and is seen as additional factors to maximize the social, environmental and economic benefits for the procurement organization, the supply chain and society as a whole.

In the context of sustainable procurement, the definition most cited by international authorities is: “Sustainable procurement is a process by which organizations meet their needs for

goods, services, works and utilities in a way that earns lifetime value for money. generating benefits not only for the organization but also for society and the economy while minimizing environmental damage. [7]

To implement sustainable public procurement, it is crucial to know the process of public procurement in the light of legal norms and international good practices. A policy of Sustainable procurement may fail if it is not implemented with attention or not are taken into account the legal provisions related to the use of procedures public procurement, the criteria that can be applied or the way of evaluating and verifying the criteria environmental. The procurement process is the same, whether a contracting authority procures an "environmentally friendly" product, service / work or not. When initiating a sustainable public procurement, the following aspects are relevant:

- The governing principles in the field of public procurement;
- The legislation that regulates the award process.

The principles set out below are essential and should be taken into account when initiating and conducting a procurement procedure for sustainable products, services, works:

- ✓ **transparency** - involves informing the participants in the procurement procedure about all information regarding the application of the award procedure, including with reference to the implementation of sustainable criteria;
- ✓ **proportionality** - reflects the assurance of the correlation between the need of the contracting authority, the object of the procurement contract and the requirements to be met during the application of the procedure and the execution of the contract;
- ✓ **mutual recognition** - is the recognition of certificates / documents issued by the competent authorities of other states;

✓**value for money** - implies that any contracting authority is obliged to ensure the efficiency of public procurement, in other words, it must ensure the best value for money. They have the obligation to obtain the best values for taxpayers' money for everything they buy, but identifying the most advantageous offer does not necessarily mean the cheapest offer. Therefore, it means finding a solution that meets the requirements of the authority, including the environment, in the most cost-effective way. Best value not only includes measures related to the cost of goods or services, but also involves taking into account key factors such as quality, efficiency, effectiveness, and environmental protection can be one of these factors.

Regarding the need to implement the principles of sustainable public procurement at the World Summit in Johannesburg in 2002, Resolution 2 on sustainable development was adopted, aimed at "promoting the development and dissemination of sustainable goods and services through public procurement"; to respect the principles implemented for the sustainability of public procurement. The reasons invoked are multiple and diverse. The state being one of the major consumers of various goods, services, works can invoke sustainability conditions when announcing the competition, awarding contracts. Sustainable public procurement is also called "green procurement". The criteria for so-called "green procurement" predominate in EU public procurement law, with Directives 2014/24 / EU and 2014/25 / EU of the European Parliament and of the Council being the basic normative acts. In 2008 the EU Commission adopted the document COM 400 Communication Public Procurement for a Better Environment, whose main objective was to develop and implement recommendations on reducing the environmental impact of consumption for public needs and the use of "green procurement" to stimulate ecological innovations. This goal was for about 50% of EU public procurement to be based on green principles. It also promotes the integration of the three components of sustainable development, namely economic development, social development and environmental protection - interdependent pillars that reinforce each other [1].

Thus, the significance of sustainable procurement appears as a process through which organizations meet their needs for goods, services, works and utilities in a way that obtains value for money for life in terms of generating benefits not only for the organization, but also for society, while minimizing damage to the environment. [7] In other words, sustainable public procurement integrates the following factors generating sustainable procurement, shown in the following figure:

Factors generating sustainable procurement	Economic factors: include the cost of products and services throughout their lives as well as costs for society as a whole to ensure real value for money in the long run.
	Environmental factors are necessary to reduce the environmental impact of goods, works and services (impacts on health and well-being, air quality, generation and disposal of hazardous materials) and to minimize the use of resources (reduction, recycling, reuse) throughout supply chain (also called "green procurement").
	Social factors: include recognition of equality and diversity; respecting work based on standards; ensuring fair working conditions; increasing employment and skills; and developing local communities (also called "responsible" social procurement)

Fig.2 Generating factors of sustainable acquisitions

Source: Developed by the author based on the source [1]

The European Commission and many other governments as well as international organizations are increasingly focused on implementing strategies to use public procurement to achieve the objectives of society, the environment, social justice and the effective institutionalization of sustainable public procurement (the interconnection between them is in the following figure).

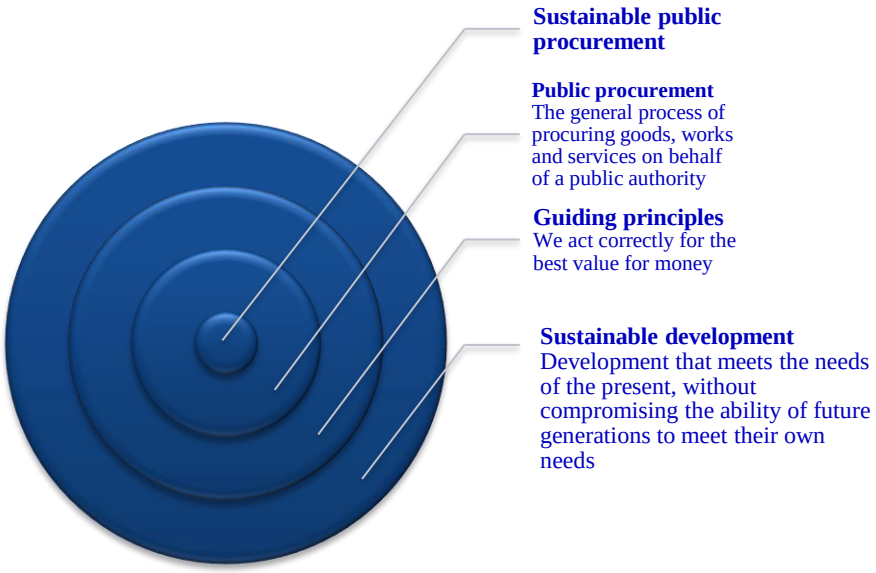
Sustainable public procurement
Public procurement
The general process of procuring goods, works and services on behalf of a public authority
Guiding principles
We act correctly for the best value for money
Sustainable development
Development that meets the needs of the present, without compromising the ability of future generations to meet their own needs

Fig.3 The interconnection between the objectives of societies, the environment, social justice and sustainable public procurement

Source: Elaborated by the author based on the source [8]

According to the figure above, there are different entry points for addressing sustainable public procurement, which can be grouped according to the development and implementation of national policies for sustainable public procurement, so that they participate directly in:

- the establishment of sustainable public procurement, in a public procurement entity;
- integrating sustainability, considerations and principles throughout the procurement process;
- ensuring skills, practices and techniques, which should exist to enable the success of the implementation of sustainable public procurement and the development of sustainable development.

In principle, sustainable development needs to be applied in all areas of activity, in order to meet basic material needs, in order to provide resources for optimizing the quality of life. Economic

development in particular, like any other type of development, requires measures to streamline human resources in particular, but also other types of resources in general. One of the major challenges of sustainable development is to find ways to encourage environmentally friendly economic activities and to discourage activities that cause environmental damage (air, water and soil pollution, respectively subsoil).

Conclusions

The emergence of the hypothesis regarding the clarification of the existence of the conceptual difference between sustainable and green procurement, imposes the need for research and implementation of sustainable procurement, with the primary objective of environmental sustainability and socio-economic development in saving public money. The public sector in our country has little experience in sustainable procurement. Through the legislative changes in the field of public procurement and through this project, the Government wants to give a clear signal - sustainable procurement has a key role for the Government, because it also means economic development, especially of small and medium enterprises. Contracting authorities have been urged to take into account, for the implementation of sustainable public procurement, a set of tools with which they can achieve performance in terms of procurement sustainability - life cycle cost, centralized procurement, energy performance contracts, framework agreements , alternative offers, etc.

Future Directions

According to the EaP Green program, the necessary recommendations to follow in our country are:
1. Implementing the strategy for developing public procurement, including sustainable and innovative public procurement
2. Promoting the concept of sustainable public procurement among contracting authorities through training
3. Supervision of pilot procedures for sustainable public procurement
4. Implementing the concept of public procurement in the institutional development strategies of public authorities
5. Development of the monitoring mechanism, based on qualitative and quantitative indicators.
As for the concept of sustainable development, let's not forget that paradigms or theories, such as species, appear and disappear on the historical scale. We must also keep in mind that "anyone who has never made a mistake has never tried something new" (Albert Einstein).

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ON THE CO-EVOLUTIVE RELATIONSHIPS BETWEEN SOCIETAL ENTITY AND ITS ENVIRONMENT

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Abstract:

An autopoietic societal entity is always functioning in a strong relationship with its environment, although some degree of autonomy is required as well. The societal entity develops relationships with its environment based on a "game" within which the reaction norms of the two „players" are exchanged and mutually validated. Paper examines, from a logical and institutional perspective, the way in which the autopoietic entity evolution becomes, in fact, a co-evolution with its environment. To this end, some concepts are introduced, developed, and analysed as: reaction norm, norms compatibility (or fetality), tunnel of compatibility (or niches compatibility), fine adjusting of reaction norms (or co-web of co-evolution). Paper is preponderantly placed in the new perspective of the social system as autopoietic system introduced in social theory by sociologist Niklas Luhmann.

Keywords: *autopoiesis, societal entity, co-evolution, reaction norm, niche.*

JEL classification: *A10, O10*

Introduction

Concept initially used in the biological sciences by Ehrlich and Raven (1964), the term co-evolution refers to the evolution of interdependence and mutual adaptation relationships between different entities and their environments, while these environments evolve in relation to them. In essence, coevolution refers to the simultaneous evolution of entities and their environments, whether these entities be organisms or organizations (Baum & Singh, 1994)

Relatively recently, a vast literature has been dedicated to the co-evolution of both biology and organization, social systems, involving identifiable elements of a system of self-organization that is constantly changing through interaction and recombination "at the edge chaos "(Langton, C. (1992).

Porter (2006) summarizes as defining criteria: a) *the specificity*, the evolution of one entity is due to the other, the locus of coevolution being "the edge of chaos"; b) *reciprocity*, multiple organizational elements change permanently, often at different levels of analysis c) *simultaneity*, the change is mutual, in relation or in response to other elements in a complex adaptive system; d) *genetic fixing*, with structural forms or other permanent forms of replication, the fixation or permanence mechanism being identifiable; e) *boundary crossing*, in a multilevel, multitheory, multimethod approach; e) *organically derived*, adaptive and emergent, unplanned and unpredictable, derived from the edge of chaos.

In the relation with their environment, as cybernetics show us, no system can maintain itself by means of a point-for-point correlation with its environment; for any system, the environment is always more complex than the system itself and the reducing of the environmental complexity may be possible by means of selective system/environment relations or by perceiving its environment in a pre-formed way. (Vanderstraeten, 2005)

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Description of the Problem

The relation between system and environment is a widely debated topic in systems theory, since the works of Ludwig von Bertalanffy (e.g. 1968). The dvelopments in systems theory, especially those that are related to the autopoiesis 'paradigm' try to offer an answer for the great problems of the society in relation with its environment.

The concept of autopoiesis was introduced in the systems theory by Humberto Maturana and Francisco Varela (1972), to define the unity of a biological system in relation to its environment based on self-reference and self-reproduction: each organism has autonomy based on the of interactions between its own constitutive elements, without any direct reference to the environment, but due to structural coupling, they co-evolve.

The german sociologist Niklas Luhmann extended the concept of autopoiesis on the theory of social systems, which he claims "can contribute to the abstraction and refinement of the general theory of autopoietic systems". In the Luhmann s view, a system is defined by a distinction from its environment, which, together with selection restricts all observations and communications made by the system, as a way of reducing complexity. When a system comes into being as one entity, the difference between the system and environment is repeated within the system itself. In society, this yields functionally differentiated sub-systems each with their own autopoietic observation and communication processes (law, science, economy, politics, etc.) (Chettiparamb, 2019).

From the social theory perspective, defining the concept of autopoietic societal entity involves the conceptual clarification and logical definition of the concepts of system and poietic system, auto-poietic system and societal entity identifying the distinctive characteristics and the predicates of sufficiency of each .

The system is conceived as an intellectual division based on reality) (objective, subjective, or subjectively objectified), whose existence is conditioned by: (a) a set of component elements discernible between them; (b) a membrane which separates the environmental components, c) a set of connections between the components (intra-membrane), which generates the system functionality, while the intra-membrane elements and the environment generate the system behavior. (Dinga & al, 2020).

This division based on reality can be produced by identifying or introducing, as the case may be, membranes that separate the system from its environment. In our opinion, there are only three types of such membranes that can cut systems for the purpose of knowledge (or action, as the case may be): a) physical membranes (for example, the body of a car); b) institutional membranes (eg state borders); c) logical membranes (for example, defining the referent of a concept). Of course, in specific cases, several types of membranes can overlap (coincide). It is important to mention that the membrane of a system is not part of its structure, although, obviously, the formation of the membrane is a logical and chronological priority over the appearance of the structure. The membrane should be considered a constructive condition of a constructive type, while the structure should be considered a constitutive condition of an identifying type

Auto-poiesis is the process by which the structure of a system either resists external disturbances (robustness) or regains the state from which it was disturbed (inertia). The sufficient predicates of the autopoieticity are: (a) Autonomy of internal operations (operational closing, the system, has a membrane that differentiates it from the environment, and the internal operations which are operations inside the membrane; there are always external norms that emerge from a leading sub-system that embed themselves in the concerned autopoietic entity, which will tend to open that operational set). (b) roughly identical replicability of its phenotype, and (c) co-evolution with its environment, inside the "tunnel" of identity conservation (inter-actional opening). (Dinga& al , 2020)

The configuration of poietic and auto-poietic system and autopoietic societal entity are shown in The Journal Contemporary Economy / vol 5, Issue 1/2020. (pp 19-28) For the purpose of this work, we present them on brief:

A poietic system implies the definition of the concept of poieticity (based on which the concept of self-poieticity and, respectively, auto-poietic system will be defined) starting from its distinctive characteristics :

Poieticity is a property (either of a system, or of a process, or of a phenomenon) with the predicated by sufficiency:

(P1) structuring potential: this is a predicate of sufficiency that refers to the capacity of the entity concerned to create, modify, preserve, update etc. structures, either with reference to itself or to its environment.

(P2) integrative potential: this is a predicate of sufficiency that refers to the capacity (potential) of the entity concerned to capture influences from the environment (or even from within the entity itself), influences that integrate either in its structure or in its functionality.

The concept (property) of auto-poietics (AP) requires two additional predicates of sufficiency:

(AP1) self-reflexive capacity: refers to the capacity (potential) of an entity to observe, record (memorize) and evaluate its state of identity with itself.

(AP2) conservative capacity: refers to the capacity (potential) of an entity to generate actions - impulses - to deal with the impacts that have occurred from the perspective of maintaining the identity of that entity.

Auto-poieticity generates, once established, a series of new predicates of necessity, respectively:

(APN1) the benign accumulation of disturbances: it is a predicate that allows the storage (storage) of influences coming from the environment of the entity or from within it.

(APN2) the entropic dissipativity: is a predicate that allows (or requires) the entity (system) in question the ability to maintain or decrease its entropy.

This means the ability of the entity to extract nonentropy from the environment (including from other entities / systems with which it interacts) and to pour entropy into the environment (or into other entities / systems, as appropriate).

The property of sociality is given by a more primitive property, of community, by which we undestand the property that the component elements of an entity to develop a limited number of functions that are common to all elements. The concept of community involves defining attributes: a) spatial coexistence; b) power hierarchy; c) non-void intersection of individual / group interests; d) non-void intersection of the resources usable / used by each individual / group. The sufficiency predicates of the set of connections between the components (intra-membranatic) may be with a "private" character or a "public" character, ie non-autonomous, inter-component connections, which involve all the components of the system.

As a consequence, the property of sociality is manifested in all cases of entities (systems) endowed with subjects (cultural or non-cultural) in which there are connections with "public" character, such as bees, ants, humans, some species of animals (lions, wolves).

As results, an entity (system) has social caracteristic if the the set of connections between the components (intra-membranatic) is not void.

The concept of societality, as attribute of social, refers only to the set of the set of "public", ie non-autonomous, inter-component connections, which involve all the components of the system. The connections between the component elements of the system and the environment of that system generates what is called the behavior of the system, which is divided into two subsets: the subset of the "private" (autonomous) connections between the component elements of the system (entity) and the environment of that system (entities) and the subset . An entity (system) has societal caracteristic if the subset of is not void.

Autopoietic societal entity (ESLAP): In order to obtain the logical formula of the autopoietic social entity we will add, in a conjunctive way, the sufficiency predicates of autopoeticity described.

Methodology and Data

Based on the definition mode of the autopoietic societal entity, we propose as classification criteria: ($C1$) resistance to disturbances: the criterion refers to ESLAP's ability to preserve its identity under the pressure of internal disturbances (generated by its own operation) or external ones (coming from the environment, including from other systems);

($C2$) membrane penetrability: the criterion refers to the ability of the ESLAP membrane to oppose the passage of disturbances from the environment (including other systems) inside it. This implies, of course, certain selection properties that the membrane possesses, properties induced by ESLAP design;

($C3$) the way of treat with disturbances: the criterion refers to the procedure adopted by ESLAP for the treatment of disturbances (either internal or external), either in order to preserve its identity or, in some cases, in order to accept pre-established forms of change);

($C4$) evolutionary direction: the criterion refers to the general (or specific, as the case may be) trend, usually in the medium or long term, of the changes that an ESLAP manifests (or accepts, as the case may be);

Based on these proposed criteria we will establish the ESLAP classes:

resistance to disturbance, according to whom the following classes can be established (fig 1.):

($C1/PI$) strongly inertial ESLAP: shows a strong resistance to changes that can be induced by disturbances (either internal or external, after they have managed to penetrate the membrane)

($C1/SI$) weakly inertial ESLAP: shows a relatively weak resistance to changes that can be induced by disturbances (either internal or external, after they have managed to penetrate the membrane). This means that the effects of disturbances can occur even without the critical threshold of the previous ESLAP class being reached;

($C1/NI$) non-inertial ESLAP: does not show any resistance to the changes that the disturbances (either internal or external, after they have managed to penetrate the membrane) generate by their pressure.

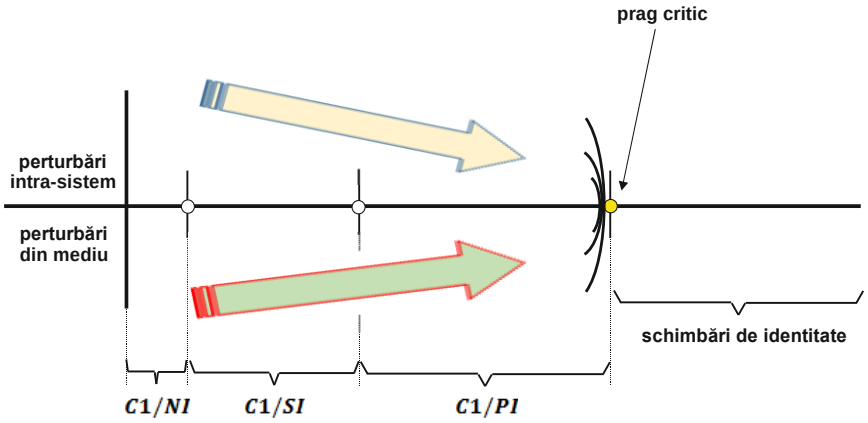

Figure 1. ESLAP classes based on criterion C1

Source: graphic construction of the author, based on his own research

b) membrane penetrability (figure 2)

Based on these proposed criteria we will establish the ESLAP classes:

autonomous ESLAP: shows a very high opacity in terms of the passage of external disturbances through the ESLAP membrane. These ESLAPs are quasi-impenetrable and one of the fundamental consequences of this property of strong impenetrability is the strong asymmetry between the internal and external complicity of the ESLAP in question - the degree of internal complicity is much higher than the degree of external complicity semi-autonomous ESLAP: shows a medium opacity in terms of the passage of external disturbances through the ESLAP membrane. These ESLAPs are relatively penetrable, and one of the fundamental consequences of this property of relative penetrability is the symmetry between the internal and external complication of the ESLAP in question - the degree of internal complicity is approximately equal to the degree of external complicity.

Dependent ESLAP: shows a very low opacity in terms of the passage of external disturbances through the ESLAP membrane. These ESLAPs are almost transparent in terms of penetrability,

and one of the fundamental consequences of this strong penetrability property is the strong asymmetry between the internal and external complicity of the ESLAP in question - the degree of internal complicity is much lower than the degree of external complicity.

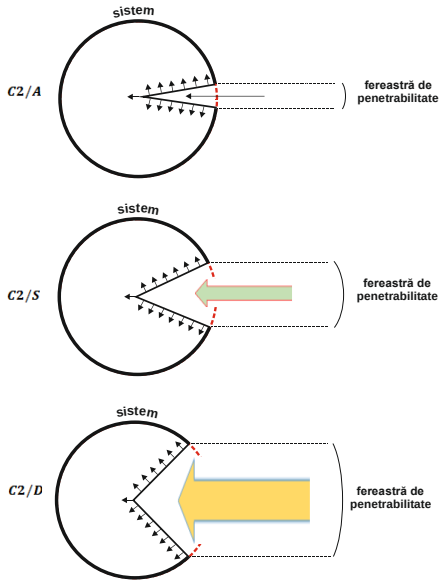

Figure 2. ESLAP classes based on criterion C2

Source: graphic construction of the author, based on his own research

The way of treat with disturbances

In order to examine the ESLAP classification related to this criterion, it is necessary to discuss the main structural and functional “devices” with which a system is “equipped” in its relations with disturbances.

In our view, the following such devices must be define:

M-type device (memory) that preserves the image of the structural "being" of the system in question. Indeed, the restoration of the structural configuration modified by a disturbance (internal or external) can only be done by referring to an "image" of this configuration prior to the time of the disturbance. Likewise, in order to preserve the structure under the "siege" of a disturbance, a benchmark is needed to be maintained. The memory in question, which can be held either inside or outside the system in question (as is often the case with social systems) can be of different natures:

- genetics (eg: in case of wounds of the organisms, the organisms in question recover the state prior to the moment of the injury based on the genetic code that will realize the synthesis of the proteins necessary for the recovery of the organism);
- cultural (eg: the case of normative changes at the level of society that need to be restored / reintroduced because they have proven to be beneficial); cultural memory includes both a memetic type reference (based on memes) and a semantic type reference (based on memes). Mema represents a replicator of cultural origin, of informal and non-imperative type of behaviors, and sema represents a replicator of cultural origin, of formal and imperative type of behaviors. The meme is random, while the meme is deliberative

APE type device (anticipation / prevention / avoidance) of disturbances (either internal or external). This device can, of course, be natural or cultural, depending on the system in question. The APE device operates before the disturbance occurs, so it is an ex ante device

NRD type device (neutralization / reduction / dissipation) of disturbances in front of which the APE device did not give results. The NAD device works after the disturbance has acted on the system, so it is an ex post device

F-type device (fructification) of the disturbances in front of which the NRD device did not give results. Device F is also an ex post device, but of last resort and even having a connotation of…

purpose.

Based on these considerations, we can now identify the ESLAP classes according to criterion C3.(fig 3):

(C3 / APE) evasive ESLAP: characterizes those ESLAP in which the APE-type device predominates and is manifested by the tendency to avoid disturbances - either by anticipating them and, therefore, taking measures to avoid their impact, or by preventing those which occur but were not anticipated, either by avoiding those that can neither anticipate nor prevent, the last reaction being ad hoc in nature;

(C3 / NRD) palliative ESLAP : characterizes those ESLAP in which the NRD type device predominates and is manifested by the tendency to actively treat the disturbances - either by neutralizing them by counteracting measures, or by reducing them by repair measures, or by dissipating them, by reorientation measures;

(C3 / F) antifragile ESLAP : characterizes those ESLAP in which the type F device predominates and is manifested by the tendency not to avoid disturbances and even to "look for" them, if not deliberately cause, in order to obtain advantages of any kind from bearing the disturbances in question.

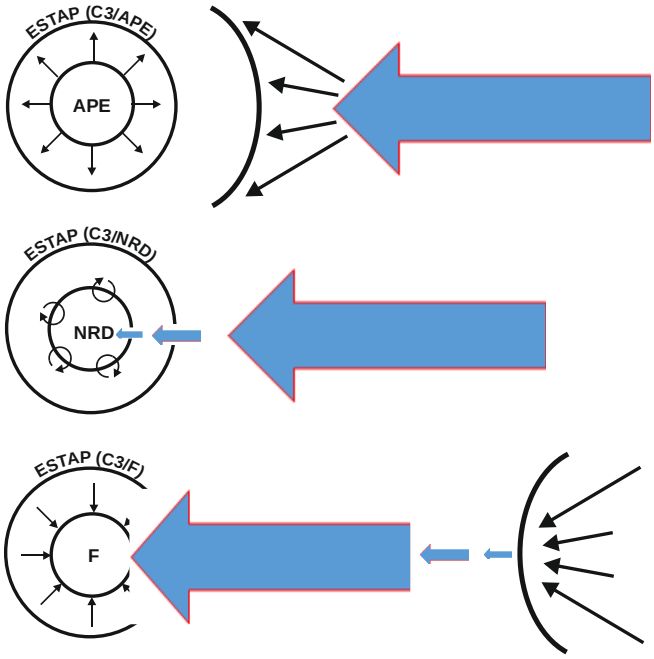

Figure 3. The ESAP classes based on criterion C3

Source: graphic construction of the author, based on his own research

Results

An autopoietic societal entity is both supported and disturbed by its environment. It forms its own structures in reaction to irritation from the environment in order to continue the autopoietic process, or it simply ceases to exist. (Vanderstraeten, 2005)

The autopoietic societal entity does not have direct inputs or outputs in the traditional sense; it constitutes a web of interdependent (and in fact for the most part non-linearly coupled) molecular processes that maintain autopoietic organisation, so, the external environment with which it interacts does not inform, instruct or otherwise define directly the internal dynamics, instead it indirectly perturbs the dynamics of the system. (Briscoe & Dini, 2010)

Letelier et al. (2003) suppose that autopoietic systems do not simply behave or react passively in the environment that is provided. He considers that an important aspect of autopoiesis generally is its mechanism of structural coupling, by which the autopoietic entities and its environment

determine, in a mutual way, change in the autopoietic system structure which contains these spatio-temporal correlations, on the form of complementary changes in interacting entities. That forms are called congruences, as a consequence of structural coupling. A congruence between the system and its medium can be selected or stabilised, so the medium gradually becomes the system and, for external observers unaware of the buildup of the relationship, the organism appears to become adapted to some characteristics of the medium, the autopoietic entities do not only adapt to the defined ecological niche, the standard notion of evolution by adaptation, but also partly create their environment through the systematic production of congruences (Briscoe & Dini, 2010).

The modern society works on the pattern of the functional differentiation, according to which the environment is perceived through different ”lenses”, such as political, legal, economic, educational or scientific lens, becoming impossible to anticipate and control their impact on the environment, which disturbs the internal dynamics and sensitivity of function of this sub-systems. In a functionally differentiated society, the change of one system can have social effects for the other. .(Vanderstraeten, 2005).

In the modern sense, society is a free and democratic social entity, a system organized as a leading sub-system and an executive sub-system, so, it is a system of systems; the relationship between the two sub-systems of a system is one of input-output type: the orders/commands from the the leading sub-system to executive sub-system are outputs for the leading sub-system and inputs for the executive sub-system, while the reports made by the executive sub-system for the leading sub-system are outputs for the executive sub-system and inputs for the leading sub-system. (Dinga&al, 2020)

In the modern society, norms are a necessary outcome of the social contract; they are stipulated into normative acts with the role of building sufficient social channels of interactions so that synergy can arise and replicate indefinitely. The fetality of norms means that the features of norms will be consistent, given a pre-existing normative background. In a certain sense, the fetality condition is a filter for the internal order of society analogous with the concept of “normal science ” (Dinga&al , 2020)

The reaction norm is a concept helping to explain the observation that individuals of the same genotype will produce different phenotypes if they experience different environmental conditions (R. Woltereck, 1912).

The reaction norm is the result of a complex environmental cue response system, which buffers the functioning of the organism against environmental and genetic perturbations. The consequence of such a regulatory system is that environmental influences can play an important part in shaping the phenotype.

A reaction norm perspective on phenotypic traits unifies two concepts which have often been treated as opposing mechanisms: phenotype diversification due to environmental variation (plasticity) and the limitation of phenotypic variation by mechanisms that buffer development against genetic and environmental variation (canalization).

Both plasticity and canalization have been considered as adaptive traits evolved as a consequence of environmental variation. It is the reaction norm itself that one should consider as the evolved trait its adaptive value is. (Voelkl &Wurbel, 2019).

If the external norms are fetal for the entity concerned, then they will be internalized, and their external origin will be “forgotten” and fully replaced with an internal one. This, however, does not mean that a leading sub-system will arise inside the entity concerned, but simply that those norms acquire “citizenship” to the entity (Dinga&al , 2020).

Conclusions

In conclusion, we believe that by using this new theoretical approche it is possible to develop new concepts that are helpfull in describing the co-evolutive relationship between societal entity and its enviroment.

Future Directions

The directions of the future research is aiming to develop the described approache to futher explore the relationship between societal entity and its enviroment with the scope of building a 4D imagine of the ESLAP regarding the structure and dinamic from spatial, temporl, institutional and teleological perspective.

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